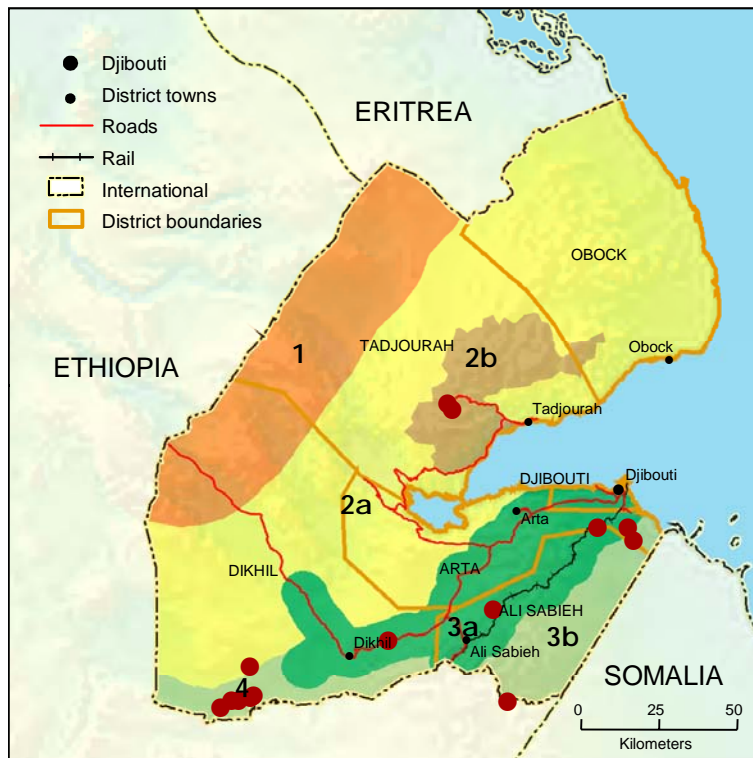


Djibouti Livelihood Profiles

October 2004



Rural Livelihood Zones

- 1** Northwest Pastoral
- 2a** Central Pastoral - Lowlands
- 2b** Central Pastoral - Highlands
- 3a** Southeast Pastoral - Roadside
- 3b** Southeast Pastoral - Border
- 4** Market Gardening

Urban Livelihood Zone

Djibouti City



**USAID
FEWS NET
PROJECT**

Acronyms:

USAID	United States Agency for International Development
FEWS NET	Famine Early Warning System Network
FD	Djibouti Franc (currency)

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Introduction

The livelihood profiles that follow document how both urban and rural populations of Djibouti live. A *livelihood* may be defined as the sum of ways in which households obtain the things necessary for life, how they make ends meet from year to year and how they survive (or fail to survive) through difficult times.

There is increasing interest in using livelihoods analysis as the ‘lens’ through which to view a number of problems. These problems range from emergency response to disaster mitigation to longer term development. This interest rests upon two basic observations:

- 1) Information about a given area or community can only be properly interpreted if it is put into context with how people live.
- 2) Interventions can only be designed in ways appropriate to local circumstances if the planner knows about local livelihoods and whether or not a proposed intervention will build upon or undermine existing strategies.

Two main products are offered here:

National Livelihood Zone Map	The map shows the division of the country into homogeneous zones defined according to a livelihoods framework.
Livelihood Zone Profiles	The profiles describe the major characteristics of each zone, including a brief differentiation of the status of different wealth groups. The major hazards and the relative capacity of different types of households in different places to withstand them are identified.

In compiling the profiles, a balance has been struck between user-friendliness and level of detail. The aim has been to present sufficient information to allow a rounded and balanced view of livelihoods nationally. The profiles provide a rapid introduction to livelihoods in the country; they do not offer localised detail.

The preparation of these profiles was undertaken by the USAID FEWS NET project with assistance from the Government of Djibouti. The main focus of FEWS NET’s work is early warning, food security monitoring and emergency assessment. The livelihood profiles have been structured primarily with these types of activity in mind. However, the profiles should also be useful to the wider development community.

This document is divided into 3 main sections.

- (1) **Introduction**—This has 4 sub-sections
 - **The Uses of the Profiles**--which describes 3 main ways the profiles can be used.
 - **Key Concepts**--which defines the key concepts used in livelihoods based-analysis, and outlines the analytical framework that has helped define the key information to be included in the profiles.
 - **What is in a Livelihood Profile**—which describes the layout and content of each profile.
 - **Methodology**—which describes the methods used to develop the map and profiles.
- (2) **National Overview**— The national livelihood zone map, together with a national overview of livelihoods in Djibouti.
- (3) **The Livelihood Zone Profiles** —The profiles for each zone.

The Uses of the Profiles

The livelihood zoning and profiles presented here offer an analysis of urban and rural livelihoods and food security on a geographical basis. The country is divided into homogeneous zones defined according to a livelihoods framework. A brief description of each zone is provided, including an analysis of the position of different wealth groups within the zone. It is envisaged that this product will be useful on three levels, as follows.

1. An Introductory Guide to Livelihoods and Food Security in the Country

The profiles pack considerable information and analysis into a few pages of presentation. They should therefore form a useful briefing for a newcomer who needs to get a quick grasp of livelihoods and underlying food security conditions around the country. The geographical divisions are relatively broad - as far as this is consistent with ground realities - so that the reader can take in the general pattern and the basic differences between areas and populations without being overwhelmed by too much detail.

Development planners can also benefit from using the livelihood profiles. One objective of development is to reduce people’s vulnerability to hazards and to increase their capacity to cope. An important first step is to understand who is vulnerable, to which hazards, and why. Likewise, efforts to reduce poverty require an understanding of how the poorest households survive and the reasons for their poverty.

2. Early Warning and Response Planning

Local food security is often equated with agricultural production outcomes. Hence, a chronic or temporary production deficit against local food requirement is immediately translated into chronic or temporary food insecurity. Consequently most early warning and food security monitoring systems draw heavily from two information sources: (i) crop and/or livestock production data; and (ii) market price information.

This is almost never the whole story. A full account of the 'food economy' addresses both food availability - that is, what food people produce—and food access—what cash people earn to purchase food. Data on casual employment or wild foods, or charity from relatives or the sale of handicrafts may be equally important to the livelihood story as data on crop and livestock production, and a knowledge of the relative importance of these can guide the design of more appropriate monitoring systems and better rapid emergency assessments.

Using a livelihoods framework, we can inquire into household capacity to cope with stress, especially failed crop or livestock production; and we can appreciate household activities at different periods in the yearly cycle. All of which feeds directly into our analysis of need, helping to answer key questions such as; which areas and what types of household are likely to cope should a hazard strike and which will need assistance? What types of intervention will be most appropriate, and when and for how long should they be implemented?

Thus for instance one could point to the position of poor households in a given geographical area who are highly dependent on urban employment. If urban employment declines, their labor will be less in demand: can they find alternative income elsewhere – and will they be competing with people from other zones in these activities?

National officers working within their national early warning system have an immense knowledge of their countries. The livelihoods approach helps to provide a framework for the full use of that knowledge, as well as adding a new level of information to it.

3. Policy Development

Disaster management has been the main impetus to the spread of early warning systems. The rationale in early warning is to improve the efficiency in the scale and timing of emergency food aid. However, increasingly planners are looking at alternatives to food aid in early emergency intervention—and this often requires changes in policy and practice. A case in point is the stabilization of market prices for basic foods. Livelihoods analysis can expose the likely effects of such interventions on different households' capacity to survive a crisis. The analysis can also recommend the optimum timing for intervention.

Livelihood analysis can also be applied to other policy changes. For example, if government taxes on kerosene were reduced, or charges made for government veterinary drugs, what would be the impact on households? More generally, the livelihoods viewpoint offers a more secure footing for designing poverty alleviation measures - shifting from responding to the symptoms of food insecurity towards addressing its causes. It allows one to look at the story which lies behind national statistics.

Key Concepts

The terms **risk**, **hazard**, **vulnerability** and **need** are frequently used in ways that can be confusing in the context of food security. Their established meaning for the purposes of disaster management - and the sense in which they are used here - is perhaps best explained with an example (see below).

Defining Risk, Hazard, Vulnerability and Need

- Drought is a major **hazard** affecting crop and livestock production in many African countries.
- Poor households are more **vulnerable** to (i.e. less able to cope with) drought than better-off households; they have fewer reserves of food or cash to fall back on, and fewer options for generating additional income.
- Poor households living in drought-prone areas of the country are more **at risk** of a food shortage than other households because they are both exposed to and vulnerable to the drought hazard.
- Once a drought strikes, the poor are the most **in need** of assistance.

To be at risk of food insecurity you must both be exposed to a hazard, as well as be vulnerable to that hazard, as in the case of poor households in the drought-prone areas of the country in the above example. Because vulnerability is so closely linked to hazard, it follows that there is no general state of vulnerability; people can only be vulnerable *to something*. For example, farmers cultivating along a river margin may be vulnerable to flood (which is likely to wash away their crops), but may not be vulnerable to drought (since they can irrigate their crops using water from the river). Likewise, pastoralists may not be very vulnerable to drought provided they can move freely in search of water and grazing. They may, on the other hand, be highly vulnerable to conflict if that inhibits their movement to key water points and grazing areas.

Once a hazard has struck, it no longer makes sense to talk about vulnerable groups. Put simply, people are **vulnerable before the event**, (since this refers to their ability to cope should a hazard strike). They are **in need after the event** (i.e. once they have been affected by and have been unable to cope with a hazard). Going back to the drought example, the

poor are vulnerable to drought before the rains fail, but once they have lost their crops or livestock they are in need of assistance.

One of the most widely used livelihoods-based approaches for analysing food security is the **food or household economy approach**, first developed by Save the Children UK in the 1990s¹. The basic principle underlying the approach states that:

an analysis of local livelihoods is essential for a proper understanding of the impact— at household level - of hazards such as drought or conflict or market dislocation.

Total crop failure may, for example, leave one group of households destitute because the failed crop is their only source of staple food. Another group, by contrast, may be able to cope because they have alternative food and income sources. These alternative sources - such as livestock to sell or relatives elsewhere who can assist - can make up the production shortfall. Thus, effective hazard impact assessments must be based upon a livelihood analysis. The food economy analytical framework sets out the type of analysis required to understand the impact of a hazard on food security and local livelihoods, and has been used to help define the key information to be included in the profiles.

The objective of a food economy analysis is to investigate the effects of a hazard on *future* access to food and income, so that decisions can be taken about the most appropriate types of intervention to implement. The rationale behind the approach is that a good understanding of how people have survived in the past provides a sound basis for projecting into the future. Three types of information are combined; (i) information on baseline access to food/cash income, (ii) information on hazard (i.e. events affecting access to food/cash income, such as drought or conflict or market dislocation) and (iii) information on household-level response strategies (i.e. the sources of food and income that people turn to when exposed to a hazard). The approach can be summarised as follows:

Outcome = Baseline + Hazard + Response

Baseline: The baseline analysis has three components:

The Livelihood Zone Map: Patterns of livelihood clearly vary from one area to another, which is why the preparation of a **livelihood zone map** can be a useful first step for many types of livelihoods-based analysis. Local factors such as climate, soil, access to markets etc. all influence livelihood patterns. For example, people living in a fertile highland area generally have very different options from those living in a semi-arid lowland area. In highland areas people can generally pursue an agricultural pattern of livelihood, while in the lowlands they can grow few crops and will be either pastoralists or agro-pastoralists. Those living in a coastal or lakeside zone may follow a livelihood based upon fishing or combining fishing with other activities, and so on.

Agro-ecology is only one aspect of geography which determines patterns of livelihoods, however. Another is market access, since this affects the ability of people to sell their production (crops or livestock or other items) and the price obtained for it. Since patterns of livelihood depend so much upon geography, it makes sense to divide a country or a region into a number of **livelihood zones**. These we can define as areas within which people share broadly the same pattern of livelihood (i.e. broadly the same production system - agriculture or pastoralism for example - as well as broadly the same patterns of trade/exchange).

Livelihood zone boundaries do not always follow administrative boundaries. It is, for example, quite common to find different patterns of livelihood within a single administrative unit (e.g. pastoralists living alongside agriculturalists, or agro-pastoralists alongside fishing communities). However, because resource allocation and service provision decisions are made on the basis of administrative areas, not livelihood zones, it is important that livelihood zone boundaries should wherever possible follow lower level administrative boundaries. In Djibouti, however, this has not been possible because only administrative level two (district) boundaries are clearly delineated, and patterns of livelihood in Djibouti do not neatly follow district boundaries.

The Wealth Breakdown: Geography is clearly not the only thing that determines the pattern of livelihood. Geography tends to define the different livelihood *options*, but the extent to which people exploit these options depends upon a number of factors, of which *wealth* is generally the most important. It is obvious, for example, that better-off households owning larger farms will in general produce more crops and be more food secure than their poorer neighbours. Land is just one aspect of wealth, however, and wealth groups are typically defined in terms of their land holdings, livestock holdings, capital, education, skills, labor availability and/or social capital. Defining the different wealth groups in each zone is the second step in a food economy analysis, the output from which is a **wealth breakdown**.

¹ See 'The Household Economy Approach', Seaman J., Clarke P., Boudreau T., Holt J., Save the Children UK 2000.

The Food Economy Baseline²: Having grouped households according to where they live and their wealth, the next step is to generate **food economy baseline** information for typical households in each group for a defined reference or baseline year. This involves investigating the different sources of food and cash income and their relative contribution to the household budget over the year as a whole. It also involves developing a **seasonal calendar** of activities to see how access to food and cash income varies within the year. These types of information are critical in terms of understanding how households living at different levels of wealth and in different zones will be affected by a particular hazard. It follows, for example, that households that depend heavily upon local livestock production will be affected quite differently by drought compared to those that have relatives living and working in the capital city from whom they receive regular assistance or remittances.

Hazard: Food economy baseline data provide a starting point for investigating the effect that a hazard will have on livelihoods and household food security. Hazards may either be natural (e.g. drought or flood) or man-made (e.g. conflict or market dislocation). The consequences of a hazard will vary according to the hazard itself and according to the local pattern of livelihood. A drought may result in a loss of crop or livestock production, loss of crop and livestock sales income, loss of farm-based employment, etc., posing a threat to households that are heavily dependent upon crop or livestock production or upon local agricultural labor. Insecurity, on the other hand, may be associated with the theft of crops or livestock, reduced access to certain areas (markets, wells, grazing areas or fields) and disruptions to trade and transportation, all of which will pose a threat to groups living in, moving through or trading with the insecure area.

Response: When exposed to a hazard most households will do their utmost to try and deal with its effects. If the hazard tends to reduce their access to certain sources of food and/or cash income they may try and expand other sources, or they may turn to new or little used sources. Common response strategies³ in certain settings might include an increase in the collection of wild foods, an increase in the sale of livestock or temporary out-migration in search of employment. Where these strategies are effective, they can significantly reduce vulnerability to range of hazards. It has to be borne in mind, however, that response strategies may have long-term as well as short-term effects, some of which may ultimately undermine local livelihoods, e.g. the sale of productive assets, the unsustainable sale of livestock, an increase in the sale of firewood where this has negative environmental effects, and so on.

What is in a Livelihood Profile

The profiles are divided into a number of sections:

Main Conclusions and Implications summarises the main findings from the zone. This section also provide insights that will inform the planning of various types of intervention, including emergency response, disaster mitigation and development programming.

Zone description offers a general description of local livelihood patterns (crop production, livestock rearing, off-farm income generation etc.).

Markets contains basic information on the marketing of local production and on any importation of staple food into the zone.

Seasonal Calendar sets out the timing of key activities during the year. This is useful in a variety of ways, e.g. to judge the likely impact of a hazard according to its timing during the year, or to assess whether a particular activity is being undertaken at the normal time in the current year.

This is followed by four sections that provide the **core information on the ‘food economy’** of the zone (see preceding section):

The **Wealth Breakdown** section describes three main wealth groups (‘poor’, ‘middle’ and ‘better-off’), explaining the differences between these groups and how this affects potential access to food and cash income⁴.

The **Sources of Food** and **Sources of Cash** sections examine patterns of food and cash income at each level of wealth, relating these to the characteristics of each group.

² Note that the information provided in the profiles does not constitute a full food economy baseline. A full baseline provides quantitative information on the *amounts* of food accessed and the *amounts* of cash income generated from different sources for at least three main wealth groups within a livelihood zone. The livelihood profiles, in contrast, include information on the *proportional contribution* of different sources of food and cash income to the whole. Put simply, the units of measurement for a food economy baseline are kilocalories (i.e. food energy) and cash, whereas the unit of measurement for a livelihood profile is percentage of total. The national livelihood zone map and livelihood profiles are designed as a stand-alone product (see section on Uses of the Profiles), but they are also intended as an intermediate step towards the development of a full food economy baseline.

³ The term response strategy is preferred to coping strategy for two reasons. Firstly, the term coping strategy is often used to refer to regular components of everyday livelihood (e.g. firewood sale), which strictly speaking are only coping strategies when intensified in response to a hazard. Secondly, ‘coping’ can be taken to imply that the strategy in question is cost-free, which is not always the case.

⁴ It is important to bear in mind for this analysis that we are thinking of wealth in relative (and local) terms. Statistical data may indicate that 80% or even 90% of the population in a particular area lives below the national poverty line, but this is measuring poverty on a national, absolute scale. In a livelihoods analysis we are interested in understanding some of the differences between different groups within the community and the reasons for these – in which case it is not particularly useful to lump 80% or 90% of the population together into one group.

The sections on **Hazards** provide information on the different types of hazard that affect the zone, differentiated by wealth group where this is appropriate.

Response Strategies describes the various strategies available to different types of household in the zone, together with a judgement of the likely effectiveness of these.

Early warning involves identifying and interpreting key events that indicate that a severe food shortage or famine may be developing. The final section, **Indicators of Imminent Crisis**, draws upon the classification of early warning indicators proposed by Fred Cuny⁵. This section provides information on the key indicators and their likely timing by zone, based upon an understanding of local livelihoods and local patterns of response to food shortage⁶.

Methodology

The livelihood zone map and profiles presented here have been compiled through a combination of field work and reference to existing secondary data sources. Field work for the urban profile was undertaken in October 2003, while that for the rural profiles was completed in April-May 2004. Most of the field data was collected from community key informants and focus groups and through interviews and workshops with national and district key informants. At the national workshop a preliminary national livelihood zone map and a brief description of each zone was prepared by participating key informants. Three field teams were then formed to visit as many provincial centres as possible where a number of community level visits and interviews were organised at which the preliminary map was refined and further information on each of the zones collected.

⁵ 'Famine, Conflict and Response: A Basic Guide', Cuny F. C. and Hill R. B. Kumarian Press, 1999, pp 33-42.

⁶ Fred Cuny identified two types of early warning indicator, those that provide advance warning of a famine (indicators of imminent crisis) and those that confirm the existence of famine (indicators of famine). The latter group includes indicators such as distress sales of productive assets (e.g. plough oxen), consumption of seeds, increased malnutrition and increased mortality. Indicators of famine are not generally context specific (i.e. a single list could be prepared that would apply to all livelihood zones). They are also of little use in predicting or preventing severe food shortage or famine. For these reasons they have not been included in the livelihood profiles.

Djibouti Livelihood Profiles

National Overview

Introduction

Djibouti's strategic location on the Red Sea coast is the main economic asset of a country that is mostly barren. It occupies a key position controlling access from the Indian Ocean to the Red Sea, Saudi Arabia and the Suez canal. It is an important transit port for the region and an international trans-shipment and refuelling center. It also hosts important military and naval bases for both France and – since September 2002 - the United States. About 2,700 French troops are stationed in Djibouti under agreements signed at independence. As part of the international 'War on Terrorism', Djibouti now also hosts between 1,300-1,800 US troops and is the headquarters for a multi-national Indian Ocean task force.

The city of Djibouti dominates the country, both in terms of economic activity and population. Two-thirds (or more) of the inhabitants live in the capital, the remainder living in smaller towns or as pastoral herders. Scanty rainfall limits crop production to irrigated fruits and vegetables and staple grains must be imported.

The national economy is based on service activities (81% of GDP in 2001), with the bulk of this derived from the servicing of the port and railway to Ethiopia, and from the military garrisons. A further 16% of GDP is accounted for by industry (most of which is construction, supplemented to a small extent by the production of mineral water and salt), and only 4% by agriculture. The country is heavily dependent upon foreign aid.

Although GDP per capita (\$890 in 2001) is high compared to its neighbours, Djibouti ranks only slightly above them in terms of the UNDP Human Development Index (which takes into account GDP, literacy and life expectancy). Djibouti ranks 149th out of 173 countries, only slightly above Eritrea (157th) and Ethiopia (168th). The national prevalence rate for HIV/AIDS is estimated at 2.9%, which is very low by the standards of sub-Saharan Africa. This figure, derived from a World Bank funded study (sample size 2,000) undertaken in 2001, replaces the previous prevalence estimate of 11%, which was based on poor quality data. Infection rates are lowest in the rural areas and highest in Djibouti city.

The country has two main ethnic groups, the *Issa* who are ethnic Somalis, and the *Afar* of Ethiopian and Eritrean origin. Issa domination of the government has in the past fuelled Afar resentment, and in November 1991 this spilled over into overt conflict in the traditional Afar territories in the north of the country. Although a power-sharing deal brought the main faction of the Afar Front for the Restoration of Unity and Democracy (FRUD) into government in 1994, hostilities with a radical faction of FRUD continued until 2000.



Geography and Climate

The country measures roughly 150 km (100 miles) from north to south and from east to west and has a total land area of 23,200 square km (9000 square miles). There is considerable uncertainty as to the population. There has not been a census since 1983, and recent estimates are mostly extrapolations based upon relatively high rates of population growth. Most estimates are in the range of 450,000–700,000 for the country as a whole (with the UN estimate for 2003 being 702,000). Sixty to eighty percent of the population are thought to be resident in Djibouti city.

Despite the country's small size and small rural population, there is considerable diversity in rural patterns of livelihood. This is linked to two factors; the varied geography of the country and the range of economic relations between rural and urban areas.

Geographically, Djibouti encompasses the second lowest point on earth (Lac Assal, 156 m or 512 feet below sea level) and several mountains in excess of 1500 m (5000 ft). The highest mountain in the country, Moussa Ali (2010 m or 6600 ft) straddles the border between Djibouti, Ethiopia and Eritrea. It is connected by a middle altitude zone (i.e. above 500 m) to the mountains of Mabla and Goda that dominate the northern shore of the Gulf of Tadjourah. The second relatively elevated zone (again above 500 m) extends south from the Gulf of Tadjourah to the border with Ethiopia, roughly between the towns of Dikhil and Ali Sabieh. Most of the rest of the country lies between 200 – 500 m above sea level.

The climate of Djibouti is hot and dry, with most of the country receiving less than 150 mm rainfall per year. Temperature is at least as important as rainfall in determining patterns of livelihood, with low-lying coastal areas experiencing the highest temperatures, particularly during the summer months from May to September (the *Hagaa* season). In Djibouti city the temperature reaches 40°C during these months, with humidity in excess of 50%. Such

Seasonal Calendar												
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Coastal Areas	Heys/Dadaac		Diraac/Sougum		Hagaa (summer)		Karan/Karma			Heys/Dadaac		
	Jilaal (winter)						Jilaal (winter)					
Inland Areas			Diraac/Sougum				Karan/Karma					

difficult conditions trigger a general exodus of the urban population away from the coastal towns during the summer months, and of the rural population away the coast to more inland areas. Livestock herders also move inland to take advantage of the main *Karan* or *Karma*¹ rains, which fall towards the end of *Hagaa*. These rains drain from the higher altitude zones down onto a number of interior plains, such as those of Gobaad, Hanle and Gaggade in the south, and Dodda and Andabba in the north. These are important summer grazing areas for the country's pastoral population. In addition to *Karan/Karma*, there are also two other rainy seasons, *Heys/Dadaac* and *Diraac/Sougum*. For coastal areas the main rains are those of the winter months (*Heys* or *Dadaac*), when the lower temperature favours the growth of browse and of pasture (the *Karan* or *Karma* rains are largely ineffective in these areas due to rapid run-off and high rates of evaporation).

Djibouti City

Two-thirds or more of the national population lives in Djibouti city, the economy of which is dominated by the port and railway to Ethiopia and the foreign military bases in and around the city. Activity in the port has increased in recent years, following the war between Ethiopia and Eritrea and the channelling of the bulk of Ethiopia's seaborne trade through Djibouti.

Formal salaried employment in the government and private sectors provides the main source of income for most households in the city. However, as many as a third of households live informally on a combination of petty trade and/or casual labor. Djibouti city is divided between an older and more prosperous section, to the north of the Ambouli wadi (dry river bed), and a more recently settled and poorer area, Balbala, south of the wadi. Most people in Balbala live in temporary housing constructed of a wood frame with corrugated iron walls and roofing, with only limited access to basic services such as water and electricity. The poorest 10%-15% of the city's population are exceptionally poor by any standard, barely making ends meet on an average income of approximately 20,000 FD per household per month or \$US 0.5 per person per day.

The city's relative prosperity has over the years attracted large numbers of migrants from Djibouti's rural areas and from the neighbouring countries of Ethiopia, Eritrea and Somalia. Many of those originating from outside the country were rounded up and expelled in September 2003. There are strong ties between urban and rural populations, with almost all the assistance flowing from the city to rural areas in the form of regular remittances of money and/or food.

Rural Livelihood Zones

Pastoralists throughout the country report that persistent drought over the last 10-20 years has led to a significant reduction in livestock numbers. In some areas it appears that many of the surviving animals have been moved into neighbouring countries on a semi-permanent basis². This is in contrast to the traditional pattern, which is one of quite restricted seasonal movements (within the national boundaries), with cross-border movements only occurring in relatively bad years.

Livestock losses have reduced the viability of pastoral livelihoods, which has in turn increased the dependence of the rural population on the urban economy. This is one of several factors that has brought about the increasingly settled existence of the majority of the rural population. Other factors have been the desire for better access to education and health services, and the effects of rural insecurity during the period of internal conflict in the early 1990s.

Four rural zones have been identified. All have livestock keeping as a component of local livelihoods but nowhere can the majority of the population nowadays survive on livestock income alone. Most of the income to supplement livestock keeping is urban in origin, and the main difference between the four rural zones is in their economic relationship to Djibouti city and the secondary towns. Pastoralists in the **Southeast Pastoral Zone** have relatively good road and rail access to the urban markets of Djibouti, selling milk, wood and charcoal to Djibouti city, Arta, Ali Sabieh and Dikhil. Milk tends to be sold by pastoralists living within reach of the tarmac roads and the railway (the **Roadside Sub Zone**) while wood and charcoal are sold by the more isolated communities along Djibouti's southern border (the **Border Sub Zone**).

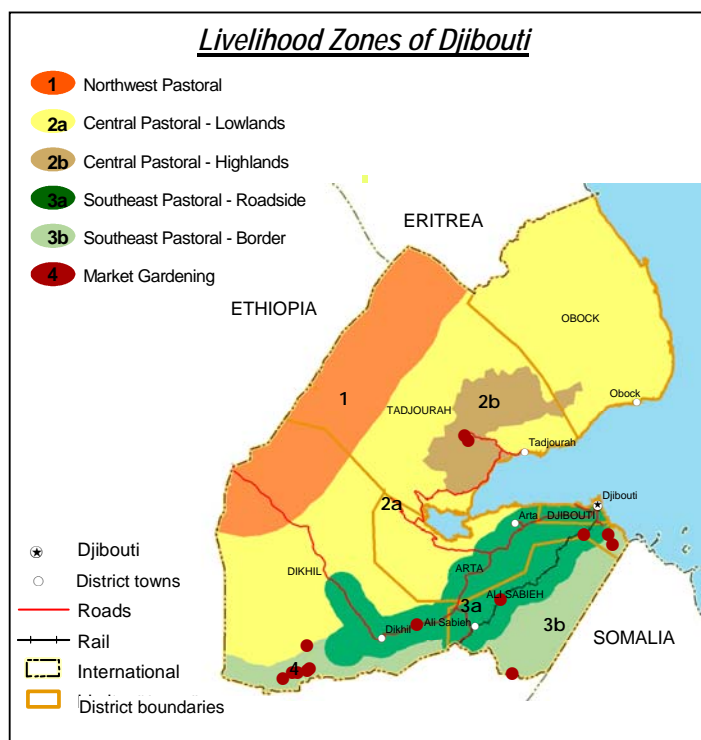
¹ *Karan* in the Somali language, *Karma* in Afar.

² It should be borne in mind that national boundaries in the region cut across traditional tribal boundaries and the same ethnic groups are found on both sides of the border.

The city and secondary towns are likewise the main market for the fruit and vegetables sold by people in the **Market Gardening Zone**.

People in the **Central Pastoral Zone** are equally dependent upon the city, but in this case it is urban employment that is the key activity, with pensions and remittances from family members working in the city especially important. The main difference between the **Lowland** and **Highland Sub Zones** is in terms of the livestock kept; cattle and small stock are kept in the highlands whereas camels and small stock are kept in the lowlands.

The remote **Northwest Pastoral Zone** is alone among the zones in having relatively tenuous links to the city and an economy rather more oriented towards neighbouring Ethiopia than urban Djibouti. Far from the major towns, access to the urban market is poor and few households have someone working in the city and remitting money on a regular basis. The zone's only advantage is its proximity to Ethiopia, where sorghum can be bought for half or less of the price at which it is available in Djibouti.

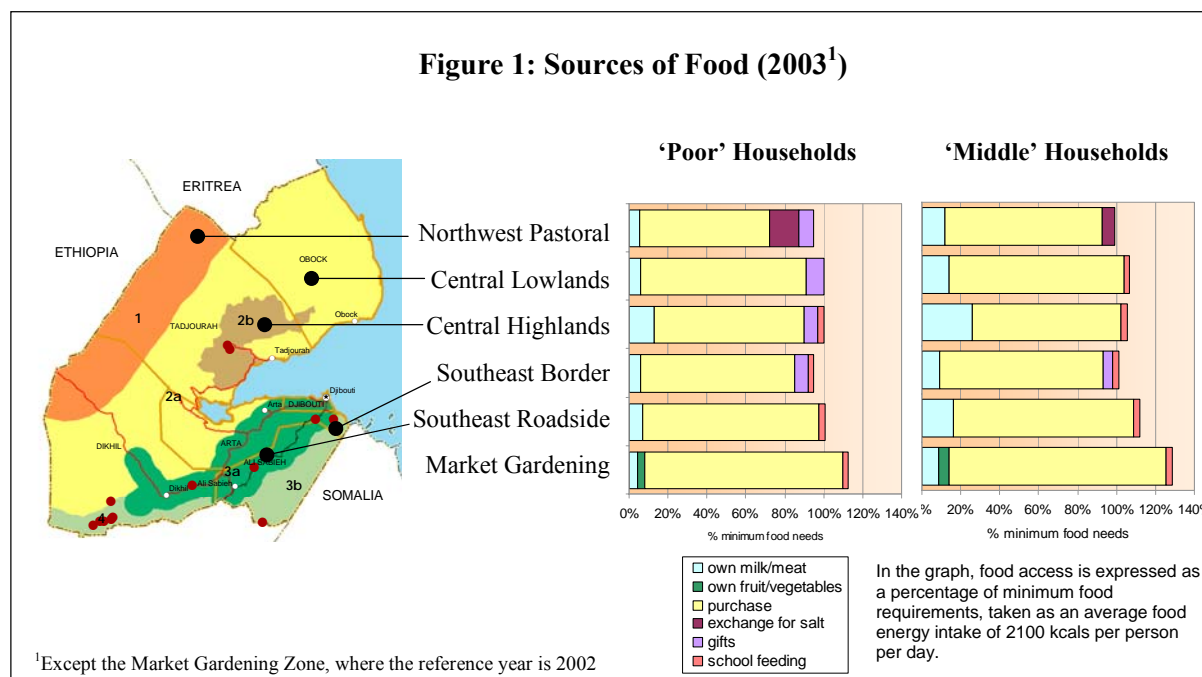


Main Findings and Implications for Development

Sources of Food: The relative contribution of different sources of food for 'poor' and 'middle' households is compared in Figure 1. The results refer in most cases to 2003, the baseline or reference year for the current assessment. This was a year that was considered by local informants as neither especially good nor especially bad for rural food security, judged within the context of the last few years.

The most striking finding is the dependence of the population on purchase for 80% or more of food energy. This is true for both levels of wealth, and is also true of the third wealth category investigated, the 'better-off'. This of course means that staple food prices have a major influence on food security in rural as well as urban areas, and underlines the importance of carefully monitoring these. For most zones, the main staples are rice, wheat flour, sugar and vegetable oil, imported through the port of Djibouti. Sorghum, imported from Ethiopia and Somaliland, is consumed in only relatively small quantities in the Southeast and Central Pastoral Zones, but alongside Maize (again imported from

Figure 1: Sources of Food (2003¹)



Ethiopia), is the main staple for the Northwest Pastoral Zone. In this zone, pastoralists themselves travel to Ethiopian border markets to make their purchases. They may also make it a three-way round trip, first of all travelling to Lac Allol to collect salt, then transporting the salt by camel to Ethiopia, where they exchange it for grain (recorded as exchange for salt in the graphic).

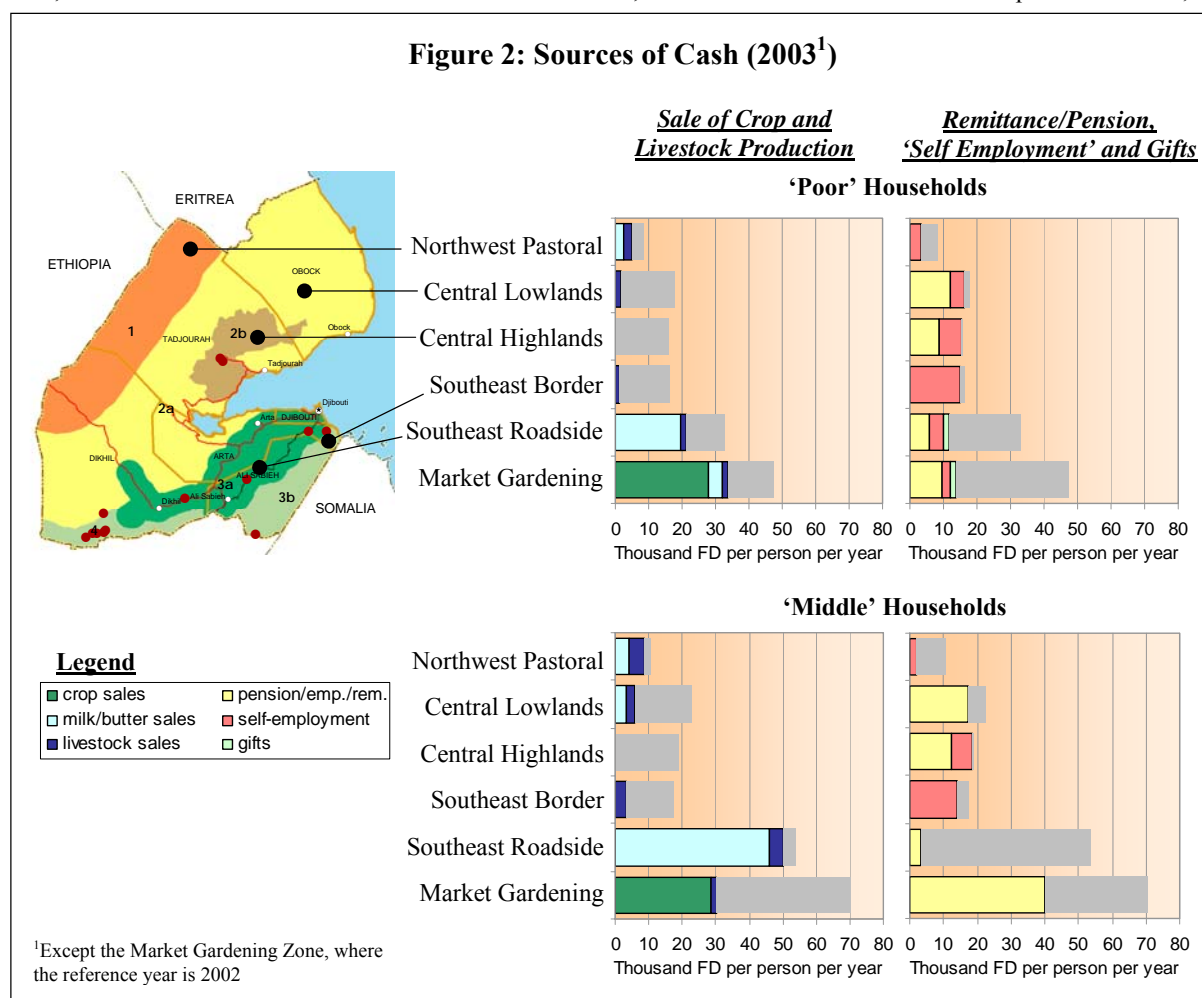
Own production, whether in the form of milk and meat or, in the case of the Market Gardening Zone, fruit and vegetables contributes only a relatively small proportion towards total consumption requirements. In the case of milk and meat this is a reflection of the relatively small numbers of livestock owned, and the relatively low productivity of these animals.

Other sources of food are gifts (a small but significant source of food for many 'poor' households) and school feeding, at least in those areas with good access to primary schools. This applies to most zones; the exceptions are the Northwest Pastoral Zone and the Central Lowland Sub Zone, many parts of which are relatively remote and far from a functioning school. School feeding contributes less than 5% to total household food needs on an annual basis. This does not mean that school feeding does not make a significant contribution to the needs of the individual child on school days – it does. It also seems to provide a powerful incentive to increase and maintain school attendance. However, the relatively small contribution to total household needs reflects a number of factors; that on average only about 1 child in each household is of primary school age, that school meals do not cover 100% of the food energy needs of the child on school days, and that schools are only open for 8 months of the year.

In most zones, 'poor' and 'middle' households were able to access at least 100% of their minimum food energy needs in the reference year. The exceptions were the 'poor' in the Northwest Pastoral Zone and the Southeast Border Sub Zone. These are the zones with the lowest per capita cash income, and therefore the lowest purchasing power (see next section).

Sources of Cash: Figure 2 shows how estimated total per capita cash income is divided between six main income sources.

Sale of Crops and Sale of Milk: The first thing to note is that incomes tend to be highest in those zones with a) good access to urban markets and b) a rural product to sell for which there is strong demand. These are the Southeast Roadside Sub Zone (selling fresh milk) and the Market Gardening Zone (selling fruit and vegetables). At the same time, incomes are lowest in the most remote and isolated zone, the Northwest Pastoral Zone. The implication is clear;



wealth in rural areas is closely linked to access to the urban market, and one key to future rural prosperity is almost certainly to strengthen those links. One way to do this might be through a program of upgrading and extension of Djibouti's network of tarmac roads. Sales of fresh milk provide a good income to rural communities along the existing roads, and more roads will almost certainly mean more communities able to sell milk. Improved roads would also remove a significant constraint for market gardeners, i.e. the high cost of transporting produce to market, and the amount of damage to produce en route.

But there are also other steps that could be taken to develop the dairy sector, e.g. the formation of cooperatives, the introduction of refrigeration, improved standards of hygiene etc. There is a strong demand for milk in Djibouti city and the secondary towns, much of which is currently met through the importation of milk powder. This indicates that there is considerable scope for developing the production and marketing of milk and milk products (e.g. butter) within the country.

Sale of Livestock: Surprisingly, despite strong demand, the sale of animals for slaughter in Djibouti city is not a major source of income for any of the four rural livelihood zones (see Figure 2, left-hand pair of graphs). Instead, most of the animals slaughtered in the city come either from Ethiopia or Somaliland, where animals are both cheaper and of better quality. The lower livestock prices are almost certainly explained by the lower cost of living in these countries compared to Djibouti, while the better quality is the result of better grazing conditions outside the country. Another factor is the poorly developed state of national markets and livestock support services. While there are clearly a range of steps that could be taken to develop this sector (e.g. the further development of water resources, market infrastructure and veterinary services), it should be borne in mind that the strong competition from neighbouring countries represents a severely limiting factor.

Remittances and Pensions: These constitute an important source of cash income in four out of six zones/sub-zones, and are the most important source of income in the Central Pastoral Zone. This underlines the importance of the urban economy for a number of Djibouti's rural livelihood zones. Education is the key to securing urban employment, and access to education is a high priority and a universal concern in both urban and rural areas. As far as the rural areas are concerned, access to primary school education could be improved in a number of ways. Key interventions are to continue the school-feeding program (which exerts a strong pull factor, especially for the poorest children) and the rehabilitation and/or construction of primary schools in more remote areas.

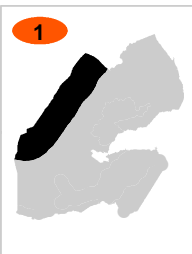
Beyond the primary level, there are problems throughout the country in terms of the availability of technical and secondary school education and in terms of its access/affordability. There are not enough intermediate and secondary school places to meet demand, and many children are unable to find a place at these levels. The shortage of school places is most severe at secondary level, and entry to secondary school is by competitive exam. Children failing this exam emerge from the system poorly qualified and find it very difficult to secure regular employment. Other problems besides the shortage of school places include a lack of resources generally, inadequately qualified teachers, a lack of textbooks and poorly conceived curricula³.

Self-Employment: Sale of wood, charcoal, salt and *onga* (the leaves of the doum palm tree) represent important sources of income in a number of zones. Each of these has its own particular problems. As far as wood, charcoal and *onga* are concerned, the main issue is the environmental sustainability of these activities. Work needs to be done to assess this and to introduce sustainable management practices that both protect the environment and rural incomes.

The problem as far as salt is concerned is that recent increases in the commercial exploitation of the Lac Assal salt deposits and a saturation of the Ethiopian market has undermined the smaller scale cross border trade from rural areas. This poses particular problems in the Northwest Pastoral Zone (see next section).

Rural Livelihood Zone Summaries


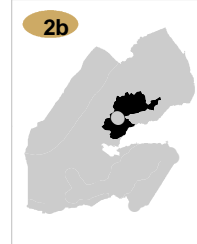
1: Northwest Pastoral Zone

	<p>This is the most isolated and disadvantaged zone in the country. Access to national urban markets is poor and few households receive assistance from relatives living and working in the urban areas. People in the zone are more reliant on livestock production than elsewhere, and the zone is therefore relatively vulnerable to hazards affecting livestock, such as drought and disease.</p> <p>People in this zone depend upon the salt trade with Ethiopia. This has been undermined recently by larger scale exports from Djibouti, leading to an increase and probable over-exploitation of <i>onga</i> (the leaves of the doum palm tree), which is sold from the zone for mat-making. A reorientation of commercially mined salt away from Ethiopia towards other international markets would help improve food security in this relatively disadvantaged zone. At the same time, the environmental impact of <i>onga</i> cutting needs to be assessed and sustainable management practices introduced that protect both the environment and rural incomes.</p>	Livestock
		Goats Camels
		Main Income Sources
		Sale of: livestock butter salt <i>onga</i>

³ Profil de la pauvreté à Djibouti, Décembre 2002. Ministère de l'Economie, des Finances, et de la Planification, chargé de la Privatisation, et Programme des Nations Unies pour le Développement (PNUD).

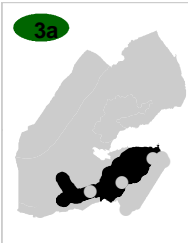
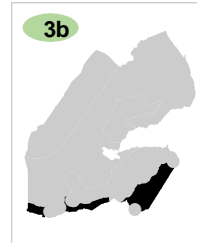
2: Central Pastoral Zone

2a: Lowland Sub Zone, 2b: Highland Sub Zone

		<p>Most households in this zone depend upon remittances sent by family members living in Djibouti city or upon a pension received by a household member re-settled in the countryside upon retirement. Sale of firewood is a secondary source of income for communities living along the main coast road, but is less of an option further inland. Sale of livestock provides relatively little income for the zone, mainly because locally produced animals cannot compete effectively against cheaper and better quality imports from neighbouring countries (Somaliland and Ethiopia). Although there are a number of steps that could be taken to improve livestock quality, it is difficult to see how the costs of production could be reduced and local animals made more competitive in terms of price.</p> <p>Access to urban employment is currently the key to prosperity within the zone, and perhaps the best hope for the zone is to maintain and strengthen these links for the future. This would imply a major investment in education in order to ensure that local children can compete in an increasingly demanding Djibouti employment market.</p>	<p>Livestock</p> <p><u>Highland Sub Zone:</u> Cattle Goats</p> <p><u>Lowland Sub Zone:</u> Goats Camels</p>
			<p>Main Income Sources</p>
			<p>Pensions/ Remittance Firewood</p>

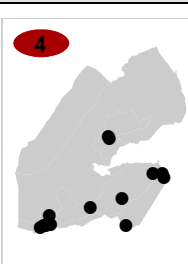
3: Southeast Pastoral Zone

3a: Roadside Sub Zone, 3b: Border Sub Zone

		<p>The Southeast Pastoral Zone has relatively good road and rail access to Djibouti's main urban markets. Communities close to the main road and rail corridors (the Roadside Sub Zone) sell fresh camel and goat milk to these urban markets, while more remote communities sell firewood and charcoal (the Border Sub Zone). Incomes in the Roadside Sub Zone are high by the standards of rural Djibouti, as fresh milk is in demand and fetches a good price. Incomes in the Border Sub Zone are, in contrast, among the lowest in the country.</p>	<p>Livestock</p> <p>Goats Camels</p>
			<p>Main Income Sources</p> <p>Sale of milk Firewood/ charcoal Pensions/ Remittance</p>

There are understandable concerns about the environmental sustainability of wood cutting, and there is a need to introduce sustainable management practices to protect both the environment and rural incomes. Improved market access might also enable households that currently depend upon wood and charcoal to diversify into milk production and sale.

4: Market Gardening Zone

	<p>The irrigated production of fruits and vegetables is practiced in <i>wadi</i> areas, above all in the south of the country and in Tadjourah district (mainly around the town of Randa). This is an activity that was introduced with government assistance in the 1980s. It is now in decline due to a number of factors including persistent drought, lack of pump maintenance, the high costs of production, poor roads (and high rates of crop loss en route to market) and competition from cheaper imports from Ethiopia. Most successful market gardeners have a secondary source of income (e.g. a pension) that allows them to invest in production and provides a buffer against years of low yield or low profitability.</p>	<p>Livestock</p> <p>Goats Sheep</p>
		<p>Main Income Sources</p> <p>Sale of fruit/ vegetables Pensions/ Remittance</p>

If this pattern of livelihood is to achieve sustainability, there is a need to focus on measures that will make local production more competitive compared to low-priced imports. This includes steps to reduce the costs of production (e.g. a reduction in the tax on fuel) and/or increase the return to farmers (e.g. by reducing rates of crop loss en route to market).

Djibouti Livelihood Profiles

Djibouti City

October 2003¹

Main Conclusions and Implications

A substantial proportion of the population in Djibouti city lives in relative poverty by local standards, and extreme poverty by international standards, subsisting on a total income of less than 40,000 FD (\$US 225) per household per month, or <200 FD (about \$US 1) per person per day. The main sources of income for these poorer households are casual labor, petty trade, low paid employment and pensions.

The government of Djibouti's vision is for a modernised economy, with a skilled and well educated workforce. One of the major challenges is to ensure that the benefits of future economic growth filter down to the large unskilled labor force that currently makes up the bulk of the poorer sections of the city's population. This requires that due attention and priority be given to labor intensive projects as and when these are possible.

A further aspect of this extreme poverty is the relative vulnerability of the poor - especially the 'very poor' - to any outside shock or hazard. The most significant hazards threatening the poor are a) fire and flood, b) increased prices of (imported) food commodities, c) any change in government policy that affects government employment, prices for food and non-food items or migration, and d) changes in activity in the port and construction sectors – the most important sources of casual labor for the city.

Given this vulnerability, it is important that monitoring information be collected on a regular basis on the most important economic hazards, and their possible effects on income and expenditure for different wealth groups.



Zone Description

The economy of Djibouti city is based on service activities, with the bulk of this derived from the servicing of the port and railway to Ethiopia and the French and US military bases in the city. Following a period of slow or negative economic growth in the early 1990s, Djibouti's economy has recently begun to grow again. This is the result of a number of factors including; a) public sector finance reforms, b) the transfer of the port and airports from state to private sector management, c) an increase in port activity resulting from the war between Ethiopia and Eritrea (with the bulk of Ethiopia's seaborne trade now channelled through Djibouti) and d) an increased foreign military presence associated with the international 'War on Terrorism'.

In June 2000, the Government of Djibouti signed a 20 year agreement with the Dubai Ports Authority for the management of the port. Plans are well advanced for the construction of new and additional port facilities at Dooraale, just to the west of Djibouti. It is hoped that this will provide significant additional employment in the construction sector in the years ahead.

Djibouti is relatively prosperous compared to the neighbouring countries of Ethiopia, Eritrea and Somalia. Over the years this attracted a large number of economic migrants to Djibouti city, most of whom were rounded up and expelled from the country towards the beginning of September 2003.

Djibouti city is divided into five districts or arrondissements, each of which is sub-divided into quartiers. Arrondissements 1 to 3 make up the older part of the city, north of the Ambouli river. Balbala (arrondissements 4 and 5), south of the river, was developed in the 1980s and 1990s to accommodate an increasing city population and incomers from the rural areas. Settlement in most of Balbala has been relatively ad-hoc. Most people do not own the land they have settled on and essentially live in temporary housing constructed of a wood frame with corrugated iron walls and roofing. The 1st Arrondissement is in general the wealthiest of the five, followed by the 2nd and 3rd arrondissements, with Balbala the poorest area of the city. However, within each arrondissement, various types of quartier are to be found. There are, for example, some 'very poor' and 'poor' quartiers in the 2nd Arrondissement (e.g.

¹Field work for the current profile was undertaken in October 2003. The information presented refers to the period October 2002 - September 2003. Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2008).

Arhiba), and 'middle' quarters in Balbala (e.g. the 'housing estates' of Cité Cheikh Osman and Luxembourg).

The older parts of the city are occupied by an urban population of long standing that has relatively few links with the rural areas of Djibouti. The links are somewhat stronger in Balbala that has been partly settled by relatively recent incomers from the countryside. The flow of assistance is almost entirely from the town to rural areas, with gifts of food and money being relatively common. Another frequent type of assistance is for an urban household to take in one or more rural relatives so that they can attend school in the city. There is also a regular pattern of seasonal migration into Djibouti, mainly of young men looking for casual work in the winter months. These seasonal movements are intensified in 'bad' years, when larger numbers come into the city looking for work or simply seeking assistance.

There is considerable uncertainty as to the population of Djibouti city. Most estimates are in the range of 450,000–700,000 for the country as a whole (with the UN estimate for 2003 being 702,000), of whom 60%-80% are thought to be resident in Djibouti city. This would put the population of the city – before the expulsion of migrants – at between 300–550,000. Subtracting the number of people expelled suggests that the population of the city might now be in the range 250–450,000.

Markets

As a sea port, Djibouti has good access to international markets, which helps ensure a steady supply of basic food commodities such as rice, wheat flour, pasta, sugar and vegetable oil at relatively stable prices. Other food items, such as vegetables, fruit and sorghum come mainly from neighbouring Ethiopia, either by train from Dire Dawa or by road. Vegetables and fruit arrive in the largest quantities each Wednesday, the day of the main vegetable and fruit market.

Prices in Djibouti fluctuate in line with production conditions in neighbouring Ethiopia and Somaliland (with drought especially significant, of course), but any effect tends to be buffered by Djibouti's ready access to alternative markets, including Yemen in the case of vegetables, fruit and even *qat* (the mild stimulant leaf from Ethiopia that is chewed by many Djiboutians each afternoon) and international markets in the case of sorghum.

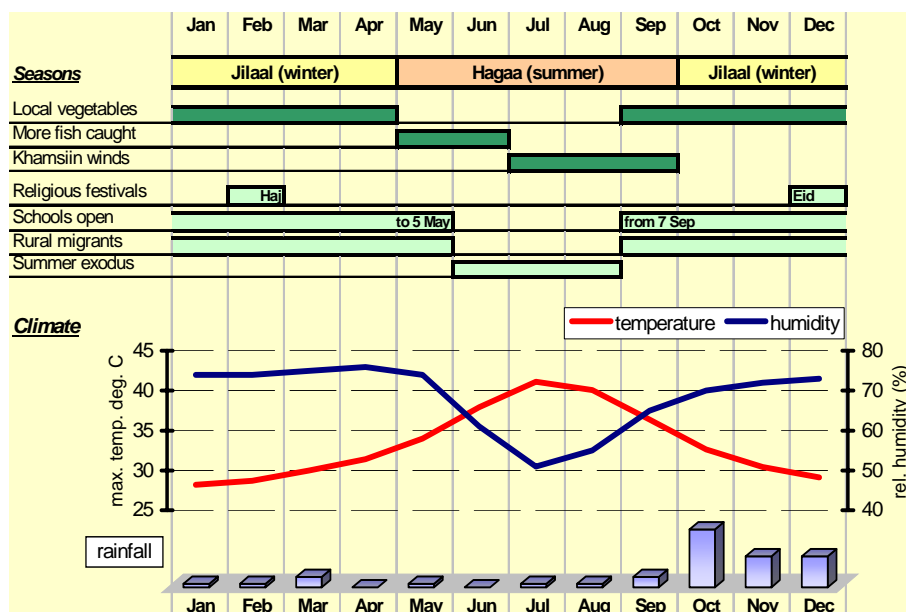
Livestock consumed in Djibouti come from within the country itself or from the border areas of neighbouring states (Somaliland, Region 5 of Ethiopia and Eritrea). Lack of water and grazing prevents large numbers of milking animals being kept within reach of the city, and the supply of fresh milk is limited. Most households therefore purchase whole milk powder.

Prices of a limited number of items are controlled in Djibouti. These are; water, electricity, transport (i.e. minibus prices), telephone and postal charges, and – since 2003 – kerosene.

Seasonal Calendar

High temperatures combined with high levels of humidity are the dominant climatic factors affecting life in Djibouti city. The most difficult period is from mid-May to mid-September (the peak of the *Hagaa* or summer season), when maximum temperatures reach 40°C and humidity remains consistently above 50%. Water shortages occur at this time of year, and electricity consumption tends to be high – especially for those fortunate enough to have air conditioning. The schools close, and many people – if they can afford to – leave the city to spend these difficult months elsewhere, including the highlands of Djibouti, Dire Dawa (Ethiopia), Asab (Eritrea) or Hargeisa or Boroma (Somaliland). *Hagaa* is also the time of year when many poorer seasonal migrants from rural areas return home, partly because there are fewer employment opportunities in the city, and partly because rural milk production increases at this time of year.

Rainfall in Djibouti is extremely irregular. There tends to be some rain in October, November and December each year, but there is very little consistency as far as the other nine months of the year are concerned. When it does rain, however, it can rain very heavily indeed, causing significant problems of



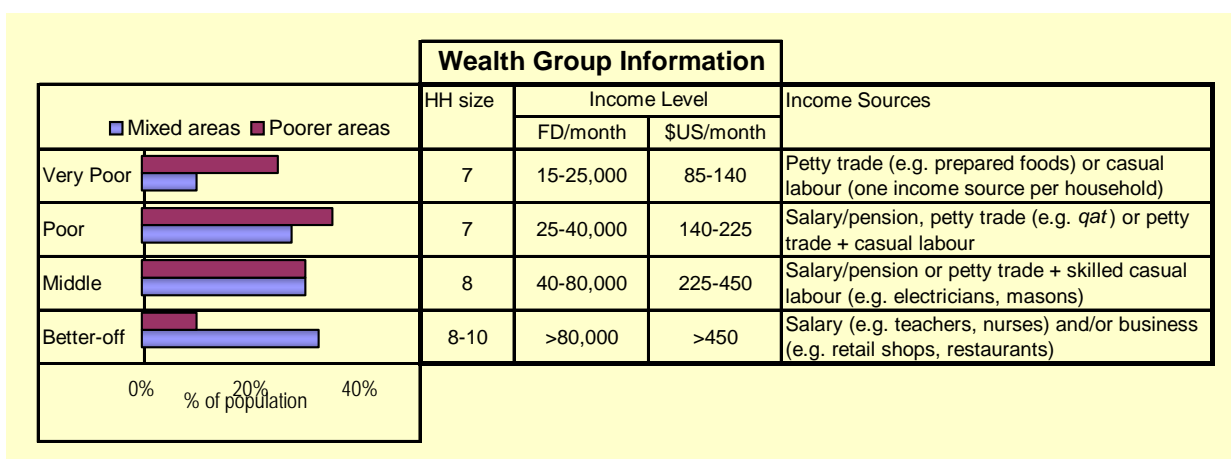
flooding, especially in the settlements along the banks of the Ambouli River. Another problem associated with rain in Djibouti is that of malaria, since mosquitoes breed rapidly in the stagnant water that accumulates after moderate to heavy rain.

A more consistent problem associated with the weather is that of fire, which can spread rapidly in the confined poorer areas of the city where most houses are constructed of wood and corrugated iron. Such fires are a seasonal phenomenon, associated with the hot dry *khamsiin* winds that blow from July to September.

The timing of two major religious festivals has a significant effect on the demand for both meat and clothes. One of these, the *Haj*, currently falls at the end of February, while the other, *Eid* (at the end of Ramadhan), currently falls at the end of November. These are periods of increased expenditure on clothing - for children, especially - along with the beginning of the school year.

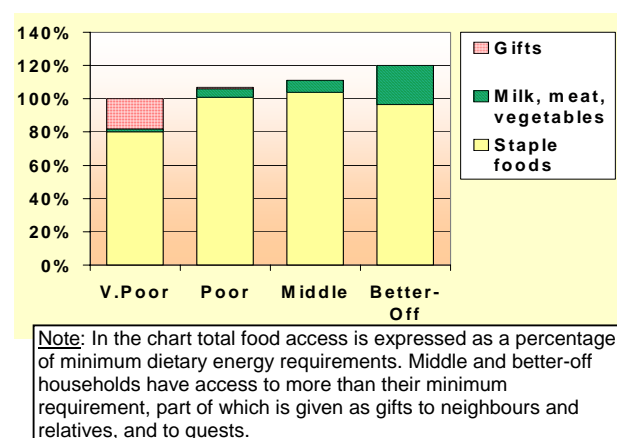
The availability of local fish and vegetables varies seasonally. Fish – which is not in fact eaten regularly by the majority of the population – tends to be plentiful during the early months of the *Hagaa* or summer season. Availability then declines from July to September, as fishing is hampered by the strong *Khamsiin* winds at this time of year. Local vegetable production (in the Ambouli Jardins district) is restricted to the *Jilaal* season. While obviously affecting the income of the vegetable growers themselves, this has little impact on the city as a whole, since most vegetables and fruit are sourced from Ethiopia and – to a limited extent – Somaliland, and supply and prices are relatively stable throughout the year.

Wealth Breakdown



Wealth breakdown information is presented for two types of area in the city, poorer areas and mixed areas. Poorer areas contain those quarters classified by the arrondissement authorities as either 'very poor' or 'poor', while mixed areas include both 'mixed' and 'middle' quarters. It should be noted that the definitions of wealth at household level presented in the table are those provided by the communities themselves, i.e. they are relative to local conditions, and reflect local perceptions of poverty.

Sources of Food – 2002-2003



There are only two sources of food for the majority of households in Djibouti; purchase and gifts. All wealth groups were, on average, able to access at least 100% of their minimum food needs during 2002-03. In the case of the 'very poor', however, this was only possible because of the gifts, usually of cooked food, that they received from relatives and neighbours. These gifts make up 15%-20% of the intake of the 'very poor'.

Not unexpectedly, total food access increases with increasing wealth, as does the consumption of more expensive items such as meat, milk and vegetables (in the graph purchased calories are divided into two categories; staple foods and milk, meat and vegetables). The implication of this, of course, is that the quality of the diet consumed by the 'middle' and 'better-off' groups is very much better than that of the 'poor'.

Sources of Cash – 2002-2003

Most households in Djibouti city generate income from four broad categories of activity; casual labor, petty trade, salary/pension or business/commerce. Casual labor (an activity for men) and petty trade (an activity for women) are primarily activities of the 'very poor', 'poor' and 'middle' groups, while business/commerce is the preserve of the 'better-off'. Salaries cover a wide range, and households with a salary can fall into any of the groups, although few fall into the 'very poor' – since most workers, with the exception of cleaners, watchmen and domestic workers, earn more than 25,000 FD per month, the cut-off between the 'very poor' and 'poor' categories. Other sources of income for a minority of households in the 'middle' and 'better-off' groups include rental income and remittances. Child labor is not common for any of the groups.

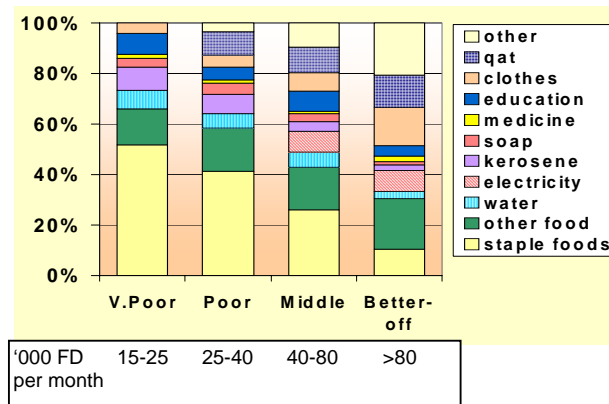
In general the opportunities for casual labor in Djibouti are fairly limited, with port work, building construction and market portering the main types undertaken. The port is an important source of casual labor, not only in the poorer quarters close to the port (such as Arhiba), but also in more distant Balbala. The availability of dock work varies with the number of ships in port, and dockers can expect to work between 1-3 weeks a month. Payment rates vary according to the cargo – with the highest payments being made for the unloading of food aid (for Ethiopia) and other relief goods (approx. 1500 FD per day).

There is not a great deal of construction work available, which means that any major construction project is especially significant. There are hopes that the construction of the new port facilities at Dooraale will generate significant demand for casual labor in the future.

Quite where a household falls on the 'wealth scale' depends not only upon the types of activity undertaken, but also the number of people engaged in income generation (typically 1-2), and the level of activity. Petty trade, for example can generate an income of anywhere between 500 and 1300 FD per day, depending upon the items traded (with petty trading in *qat* generating more income than petty trading in bread or prepared foods).

Expenditure – 2002-2003

A careful examination of expenditure patterns reveals the depth of poverty among the poorer groups in Djibouti. Almost all the expenditure of the 'very poor' goes towards covering the most basic of items required for bare survival; food, water, kerosene for cooking, and – a high priority for poor people locally – education. And even then, the 'very poor' are unable to cover more than about 80% of their minimum food needs. 'Very Poor' households spend less than \$US 4 per day for a family of 7. Total expenditure on food accounts for roughly 60% of income, with the majority of this used to purchase basic calories in the form of cereals, oil and sugar. After food, a substantial proportion of remaining income is spent on three basic items; water, kerosene and education. The 'very poor' and 'poor' are not in a position to afford electricity, and expenditure on medicine is insignificant. The 'poor' spend about 10% of income on *qat*. The 'very poor' do not purchase *qat*, but may receive it in the form of gifts.



The absolute amount of money spent on almost all items increases as wealth increases. There are, however, striking differences in the overall pattern of expenditure, with basic items such as staple food, water, kerosene and soap accounting for a much reduced *proportion* of the total expenditure, while relative expenditure on clothes, medicine and 'other' (e.g. transport, domestic staff, gifts) tends to increase.

Although incomes are higher in absolute terms than in any of the neighbouring countries, the cost of living is also relatively high in Djibouti, and differences in living standard are much less clear cut. Comparing Djibouti with Hargeisa, Somaliland, for example, the poorer groups in Djibouti are *in real terms* no more than 20%-35% better-off than the same wealth groups in Hargeisa (i.e. once differences in living costs are taken into account).

Access to Water, Electricity, Education and Health Services

Water: Water is a significant problem in most parts of the city, especially in the hot summer months from May to September. Water is supplied by a system of pipes in the older parts of the city and in some recent 'formal' developments in Balbala, but more generally by public fountains and water tankers in arrondissements 4 and 5, the newest parts of the city. Water shortages can be expected to worsen in the years ahead, unless significant steps are taken to develop new water sources for the city.

Access to water is limited in terms of supply and affordability, especially in those parts of the 4th and 5th arrondissement that rely upon water tankers. Water provided by tankers is eight times more expensive than water provided through the piped water system, and the 'very poor' and 'poor' groups supplied by tanker can only afford to purchase water in quantities that would be regarded as barely adequate in an emergency situation, even without taking into account the extreme heat, and therefore increased water requirements, at certain times of year in Djibouti. Many water tankers also fail to reach minimum standards of health and safety.

Electricity: Electricity is generally available throughout the city, but not in some of the poorest quarters, including PK-12 in the 4th arrondissement and 8-Metre and Sauvage in the 5th arrondissement. Electricity production is by diesel generator, and is very expensive.

Education: Access to education is a high priority and a universal concern for all wealth groups in Djibouti. There are problems both in terms of the availability of education and in terms of access/affordability. There are not enough intermediate and secondary school places to meet demand, and many children are unable to find a place at these levels. The shortage of school places is most severe at secondary level, and entry to secondary school is by competitive exam. Children failing this exam emerge from the system poorly qualified and find it very difficult to secure regular employment. Other problems besides the shortage of school places include a lack of resources generally, inadequately qualified teachers, a lack of textbooks and poorly conceived curricula².

Although in theory education is free, there are a number of significant 'hidden' costs associated with education in Djibouti, such as textbook fees, stationary, travel costs and 'pocket money'³. These vary between the different types of school, being lowest at primary level and highest for secondary school children. Travel is the single most significant cost as far as intermediate and secondary schooling is concerned. This is linked to the shortage of schools overall, and the fact that many are located far from the poorer quarters. These costs form an additional barrier as far the poorer wealth groups are concerned and help explain the lower rates of school attendance for these groups, especially among girls.

Health and health services: Although detailed information on health and access to health services was not collected by the team compiling this livelihood profile, it is clear that access to health care is limited for the poorer wealth groups by a lack of money, especially for the purchase of medicines. Expenditure on medicines is something that increases rapidly with increasing wealth. Average monthly expenditure on medicines by the 'very poor' is approximately 270 FD (\$1.5) per household per month. The 'middle' spend more than twice this amount while the 'better-off' spend 7x more.

Hazards

Poor households in Djibouti are vulnerable to a number of hazards.

Fire and flood: The hazards most often referred to in community level discussions are fire and, in those areas bordering the Ambouli river, flood, following heavy rainfall. Fire is an especial hazard in the poorer quarters, where most houses are constructed of wood and corrugated iron, and overcrowding means that fire spreads rapidly from one structure to the next. A part of the problem in these areas is that few households own the land they occupy, and as such they are not allowed to construct more permanent fire-resistant brick or stone structures. Fire tends to be a seasonal phenomenon, linked to the *khamisiin* winds that blow from July to September. The main effects of both fire and flood are loss of life and loss of property, especially the destruction of buildings that the poorer groups find difficult, if not impossible, to replace.

A failure of livestock and/or crop production in the areas supplying Djibouti is another natural hazard that can seriously affect poorer households. The main problem is that of drought affecting the supply of livestock from Djibouti, Ethiopia, Eritrea and Somaliland, and sorghum, vegetables and *qat*, mainly from Ethiopia. Although Djibouti can access alternative sources of supply, prices will increase, with negative effects on the food security for 'very poor' households in particular.

Changes in government policy can be either positive or negative, affecting:

- **Levels of government employment, salaries and pensions.** Structural adjustment policies have had a number of significant effects; reduced rates of recruitment, a freeze on promotions, salary reductions and delays in payment. These have significantly affected both employment and income for a number of wealth groups. Further changes are likely to result from the 'privatization' of the public sector (begun with the port and airports), which may result in rationalization and significant reductions in employment.

² Profil de la pauvreté à Djibouti, Décembre 2002. Ministère de l'Economie, des Finances, et de la Planification, chargé de la Privatisation, et Programme des Nations Unies pour le Développement (PNUD).

³ The fourth cost, 'pocket money', may at first sight seem a relatively insignificant item, both in terms of the amount of money required (20 – 100 FD per child per day), and in terms of its necessity. However, not having pocket money is something that marks a child out from the crowd, and can eventually lead to the child dropping out from school.

- **The cost of food items.** These are not at present controlled, but they are subject to the effects of government policy. The government has in recent years resisted any increase in the price of bread, for example. And any change in fuel and transport costs will tend to have a knock-on effect on food prices.
- **The cost of non-food items (water, kerosene, electricity, schooling, etc.).** The cost of water, kerosene, electricity and transport are directly controlled by government, and changes in these will have significant effects on the food security and living standards of the poor. The cost of education and health services are also under government control.
- **Migration into the city.** The September 2003 expulsion of foreign migrants had a number of economic effects, some positive, some negative. It resulted in less competition for low paid jobs and casual labor, which increased the opportunities for 'very poor' and 'poor' Djiboutians, but there was also a reduction in demand for the goods and services purchased by foreign migrants and therefore a loss of petty trading income and income for some businesses. Any change in policy will tend to reverse these effects.

Changes in activity in the port and construction sectors represent a significant hazard for the poorer wealth groups that rely heavily on casual labor in these sectors for their income.

Response Strategies

A limited number of options are available to urban households when faced with either a reduction in income or an increase in prices:

- They may **reduce expenditure**, or switch expenditure to cheaper goods, which is obviously easier for wealthier households. Even poor households in Djibouti have some room to squeeze their non-essential purchases, but it is questionable whether very poor households have. One undesirable response for poorer households is to reduce expenditure by withdrawing a child from school.
- They may **seek additional gifts**, largely in the form of cooked and dry food from relatives and neighbours.
- They may **take credit**, but this is a limited option mainly for relatively better-off households that can offer the collateral, usually land, to secure the loan.
- They may seek to **diversify and increase their income**, perhaps by sending additional household members out to work, or by initiating new income generating activities (such as petty trade for a family not currently engaged in this activity). However, this is obviously not a viable strategy for the majority of households if there is a general downturn in the urban economy.

Recommendations for What to Monitor

Government Policy, and its effects on salaries, pensions, the cost of food and non-food items, and migration into the city.

Port Activities, e.g. the number of the ships, dock labor statistics etc., since this is an important source of labor for the poorer wealth groups.

Activity in the Construction Sector, another important source of labor and employment for the poorer groups.

Livestock and Crop Production in Areas Supplying Djibouti, since these will affect the cost of basic food items in the city.

Minimum Expenditure Costs, i.e. movements in the cost of the expenditure basket of different wealth groups.

Notes:

1. This profile was prepared based upon field work undertaken during October 2003. The following organisations participated in the field work: FEWS NET, Government of Djibouti (Ministry of Agriculture, Interior Ministry, Ministry of Trade and Commerce – Meteorology Department), FSAU/FAO Somalia and Save the Children UK, Ethiopia.
2. Information on sources of food, income and expenditure relate to the 12 months from October 2002 to September 2003.
3. The exchange rate in October 2003 was 177 FD per US dollar.

Djibouti Livelihood Profile

Northwest Pastoral Zone

May 2004¹

Main Conclusions and Implications

The Northwest Pastoral Zone is the most isolated and disadvantaged in the country. Access to the national urban market for the sale of rural produce is limited, and there is likewise little access to urban employment and little remittance income. The zone is therefore more heavily dependent upon livestock production and the sale of livestock and livestock products (especially butter) than elsewhere in Djibouti. This has a number of implications.

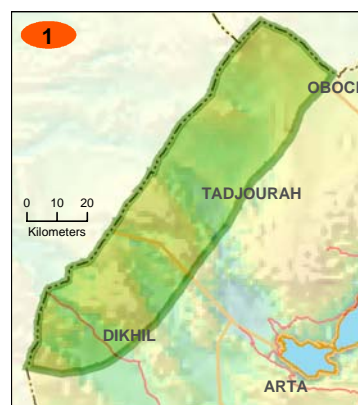
Firstly, the zone is relatively vulnerable to hazards affecting livestock, such as drought and disease, and it is important to monitor production conditions in the zone carefully and to prioritise the zone for assistance when these types of hazard strike. The zone is also vulnerable to anything that affects the supply of food items to Ethiopia's border markets (where most staple food for the zone is purchased). The most important hazards are a failure of sorghum and maize production in Ethiopia, of which the most likely cause is drought, and a reduction in the distribution of food aid to areas supplying border markets (which has the effect of stabilising prices in these markets).

Secondly, the zone would benefit from measures to increase its integration into the national economy. At one level this could mean a program of local road improvement. But it also suggests the need to improve education (the key to accessing urban employment), with a possible first step being to re-open schools that have been closed since the internal conflict of the 1990s.

Given the importance of livestock production for the local economy there is also a need to develop this sector (e.g. through the further development of water resources, market infrastructure and veterinary services). The Northwest Pastoral Zone has one advantage over the rest of the country – a lower cost of living (since the main staple foods, sorghum and maize, are purchased relatively cheaply across the border in Ethiopia). This means that local animals can be sold more cheaply and can compete more effectively with animals from neighbouring countries than is the case elsewhere in Djibouti.

Finally, the sale of salt to Ethiopia and the sale of *onga* (the leaves of the doum palm) are key sources of income for poorer households in the zone. However, it appears that the salt trade with Ethiopia has recently been undermined by larger scale commercial exports from Djibouti. This has led to an increase in the collection of *onga*, which is unlikely to be environmentally sustainable. A reorientation of commercially mined salt away from Ethiopia towards other international markets would help improve food security in this relatively disadvantaged zone. At the same time, it is important to assess the environmental impact of *onga* cutting and to introduce sustainable management practices that protect both the environment and rural incomes.

1: Northwest Pastoral Zone



Zone Description

The Northwest Pastoral Zone is the poorest in the country. This is due to its isolation and its poor integration into the national economy. The road network is poor and the provision of services limited. There are, for example, few functioning primary schools in the zone.

The zone is too far from Djibouti city and the main towns to sell rural products such as fresh milk, firewood or charcoal. At the same time, few households in the zone have relatives living and working in urban areas, and there is little remittance income. Most households in the zone are therefore heavily dependent upon livestock and income from livestock (sale of animals and sale of butter), and are particularly vulnerable to hazards such as drought and livestock disease.

Trade in the zone tends to be oriented towards Ethiopia, where people sell a proportion of their livestock and where they purchase the majority of their staple foods (at lower prices than in Djibouti, provided harvests in Ethiopia are reasonable). The zone also depends heavily upon the salt trade with Ethiopia and the sale of *onga* (the leaves of the

¹Field work for the current profile was undertaken in April-May 2004. The information presented refers to 2003, a relatively 'normal' year by local standards (i.e. a year that was neither especially good nor especially bad in terms of rural food security, when judged in the context of recent years). Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2009).

doum palm tree), which is cut around Lac Alool and sold for mat-making.

The majority of pastoralists in the zone are *Afar* from the minority *Ulucto* et *Madimo* tribes, together with small numbers of *Ebla* and *Haissamali* based around the town of Dorra. They inhabit an area bordering Ethiopia between Moussa Ali and the Dalha plateau in the north (Tadjourah district) and the Agna plain in the south (Dikhil district).

Average annual rainfall is low (120 – 160 mm). There are two rainy seasons, *Karma* (the main rains from July–September) and *Sougum* (March–April). The zone includes a number of important grazing areas, such as *Dohda*, *Andabba* and *Madgoul*. These are low-lying plains that drain rainfall from the surrounding hills and mountains. A minority of households in the zone keep cattle, but most herd a combination of goats and camels, as these are able to withstand the long dry season from October to February. Pastoralists in the zone rarely move outside their traditional territorial boundaries. They do not, for example, move to the coast to take advantage of the *Dadaac* rains (Oct–Feb).

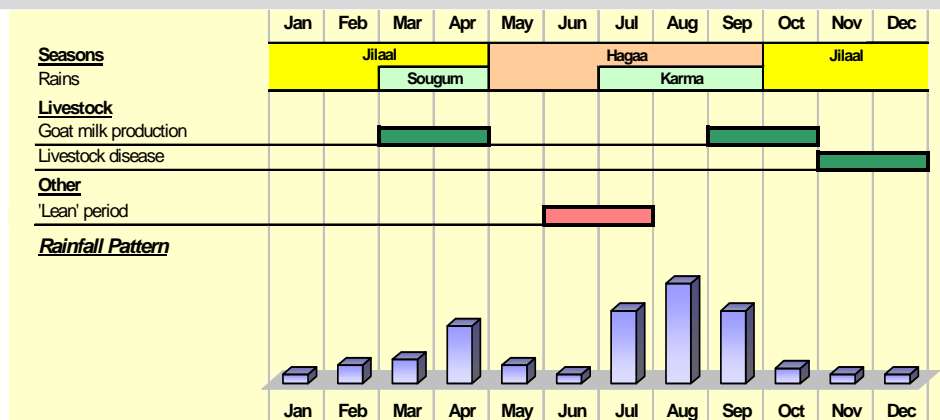
Markets

The border markets of Manda, Eldar and Asaita in Ethiopia are the main sources of staple food for households in the zone. This is because of the distance of the zone from Djibouti's main markets, and the relatively low prices prevailing in Ethiopia. The main staples purchased are sorghum and maize (grown in Ethiopia) and wheat grain (of food aid origin). The level of food aid distribution in Ethiopia has a significant influence on the price of staple food in border markets.

Livestock are sold both in Ethiopia (where prices are low) and within Djibouti (e.g. to Tadjourah). Butter, an important local product, is sold mainly to Djibouti city, where there is a strong demand. There is some small scale trading in *qat* between Ethiopia and the local towns. There is also a larger scale cross-border trade in non-food items. This is mainly an activity of the urban population, since rural households lack the capital and transport for this type of activity.

Seasonal Calendar

There are two rainy seasons in the zone, *Karma*, the main season, and *Sougum*. Water and pasture are in short supply during the long five-month dry season from October to February. Seasonal movements of livestock are however localised within the zone, between permanent water points in the dry season (e.g. Alool, Agna and Weima) and grazing areas in the wet season.



Source of rainfall data: USGS satellite imagery, estimated long-term average.

Goats are the main source of milk within the zone. Typically they give birth twice a year, in September (having conceiving at the beginning of *Sougum*) and again in March. The most difficult or 'lean' season is considered to be June–July. This is because milk production is low and temperatures are at their highest.

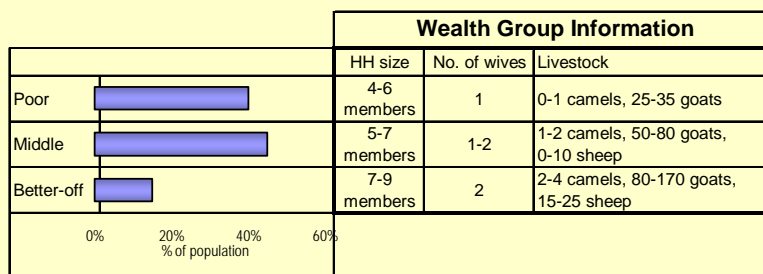
Most activities in the zone are regular throughout the year, e.g. sales of livestock, salt and *onga*, and purchase of staple food.

Wealth Breakdown

Wealth in the zone is determined primarily by the number of livestock owned. Goats are the main productive asset, with smaller numbers of camels kept mainly for transport (of salt, *onga* and staple food).

'Better-off' households tend to be larger than 'poor' households for two reasons. Firstly, the 'better-off' can support more people, and 'better-off'

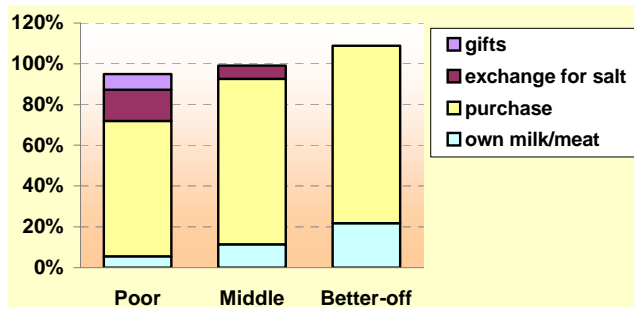
households often include 1–2 relatives from poorer households. Secondly, they tend to be more 'mature', i.e. the household head tends to be older and has had more time to accumulate livestock, wives and, therefore, children.



Sources of Food (2003)

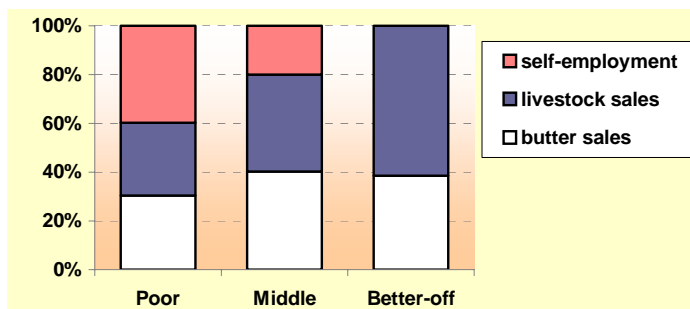
All three wealth groups purchase most of their food, and obtain only a relatively small percentage from their own livestock production. For the 'poor' and 'middle' the exchange of salt for sorghum in Ethiopia constitutes an important secondary source of food income. The 'poor' also depend upon gifts for between 5%-10% of their minimum food energy needs. School feeding is not a significant source of food for any of the wealth groups. This is because there are few functioning primary schools in the zone.

Incomes and food purchasing power are very low in the zone, and the 'poor' are unable to cover fully 100% of their minimum food energy needs in most years.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcs per person per day.

Sources of Cash (2003)



The graph provides a breakdown of total cash income according to income source.

Total cash incomes are very low in the zone, with sale of animals and sale of butter providing more than half the total. This is different from the situation in other livelihood zones in Djibouti, where sale of livestock and livestock products constitute at best a secondary source of income.

The 'poor' and 'middle' supplement their income from livestock with the sale of salt, palm wine and of *onga* (self-employment), or with small scale trading in *qat*. The 'better-off', on the other hand, survive mainly from the sale of animals and of butter. Only a few better-off households receive remittances.

Hazards

The main hazards affecting the zone are :

Severe drought, livestock disease and predators. Pastoralists in the Northwest Pastoral Zone depend heavily upon livestock production and are therefore vulnerable to any hazard affecting livestock. Severe drought is the major hazard for the zone, followed by livestock disease (pneumonia among goats during the *Jilaal* or winter season) and predators (jackals and hyenas).

Failure of the sorghum and maize crop or a reduction in food aid distribution in Ethiopia. Anything affecting the supply of staple food to Ethiopia's border markets will have a significant effect on the Northwest Pastoral Zone, since most food for the zone is purchased in these markets. The most important hazards are a failure of sorghum and maize production, of which the most likely cause is drought, and a reduction in the distribution of food aid to areas supplying border markets.

Response Strategies

People will pursue a number of strategies in order to try and cope with a hazard. The main strategies for the Northwest Pastoral Zone are as follows :

Migration to permanent water points. This is an important strategy in the event of drought, when access to water becomes the critical factor in terms of livestock survival. The most important permanent water sources within the zone are Alool, Aigna and boreholes such as Wereima. Increasing competition for scarce natural resources brings with it an increased risk of conflict, but this is generally avoided through a system of traditional agreements for managing these resources.

Increased sale of livestock. Selling more livestock is the traditional response of pastoralists to a hazard such as drought. Two factors limit the effectiveness of the response in the Northwest Pastoral Zone. First of all, the demand for livestock is relatively limited, which means that prices are likely to fall quite sharply as more animals come onto the market. Secondly, livestock holdings are already relatively low, and an increase in sales could threaten the

viability of the herd for the future.

Increased number of animals slaughtered. Increased consumption of meat is also a traditional response to food shortage among pastoral communities. Herd sizes are relatively small, however, especially for the 'poor' and 'middle' wealth groups, and increased slaughter is not an option to cover anything but the most minor of deficits.

Increase in the proportion of milk sold as butter. Butter is a high value product, and one possible response to a hazard is to increase the proportion of milk sold as butter, using the cash realised to purchase cheaper calories in the form of grain.

Switch expenditure towards the purchase of cheaper staple foods. There are two possible options. Households can switch expenditure from non-food to food items and they can switch from more expensive to cheaper calories. These are really only viable options for 'better-off' households in the zone. This is because both 'poor' and 'middle' households already spend a very high proportion of their cash income on staple foods, and also purchase the cheapest staples available (sorghum and maize).

Kinship support. The 'poor' are dependent upon gifts of food in most years, and turn to their 'better-off' relatives for further assistance in a 'bad' year.

Increased sale of salt and/or onga. 'Poor' and 'middle' households will attempt to expand income from these sources in a 'bad' year. However, relatively fixed demand for these products tends to limit the effectiveness of this type of strategy.

Indicators of Imminent Crisis

Widespread drought affecting livestock production conditions in Djibouti and sorghum and maize production in Ethiopia will have serious consequences for the Northwest Pastoral Zone. Low levels of food aid distribution to neighbouring areas of Ethiopia will compound the problem, since these distributions have in the past helped stabilise prices in border markets. The diagram illustrates one possible sequence of events leading to a crisis in the Northwest Pastoral Zone. The sequence begins with a reduction in food aid deliveries and a failure of *Gu* harvests in Ethiopia, followed by failures of the *Karma* and *Sougum* rains in Djibouti.

Season	Month	Indicator
Rains		
Sougum	Mar	Lack of food aid distribution in Ethiopia.
	Apr	Failure of <i>Gu</i> rains and ↑cereal prices (Ethiopia)
Hagaa	May	
	Jun	
Karma	Jul	Failure of main <i>Karma</i> rains, shortage of water,
	Aug	migration to permanent water points, ↑livestock sale
Jilaal	Sep	and ↓prices.
	Oct	
Nov		Failure of sorghum/maize harvest (Ethiopia)
	Dec	persistence of high cereal prices
Jan		
	Feb	
Sougum	Mar	Failure of <i>Sougum</i> rains
	Apr	
Hagaa	May	
	Jun	Shortage of water, pasture and food most severe

Djibouti Livelihood Profile

Central Pastoral Zone

May 2004¹

Main Conclusions and Implications

The Central Pastoral Zone is relatively isolated from Djibouti's main urban markets. This limits the options for generating income within the zone. There is some selling of firewood along the main coast road, but most households depend either on remittances sent by family members living in Djibouti city, or on a pension received by a household member re-settled in the countryside upon retirement.

Pastoralists would normally expect to derive a significant proportion of their cash income from the sale of livestock, but this is not the case in this zone, partly because livestock holdings are low but mainly because there is little access to the national livestock market. There are a number of reasons for this. Firstly, Djibouti city is well-supplied with good quality animals from elsewhere, including the better grazing areas of neighbouring countries. Secondly, these imported animals tend to be cheaper, due to the lower cost of living in these countries. Finally, the internal conflict of the 1990s pushed livestock traders out of the zone and, it seems, they have not returned.

There are a number of steps that could be taken to improve livestock production and marketing in the zone, including the further development of water resources, market infrastructure (e.g. livestock holding grounds) and veterinary services. This would help to improve livestock quality, but might not reduce the costs of production – a critical factor if local animals are to compete effectively with imports from neighbouring countries.

Access to urban employment is currently the key to prosperity within the zone, and perhaps the best hope for the zone is to maintain and strengthen these links for the future. This would imply a major investment in education in order to ensure that local children can compete on an increasingly demanding Djibouti employment market.

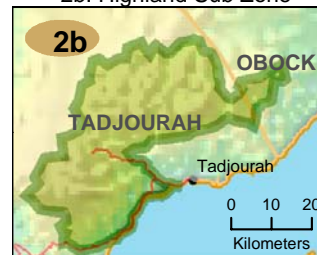
The main hazards affecting the zone are anything affecting remittances and pensions (e.g. delays in payment), any increase in food prices (since most food consumed in the zone is purchased) and drought affecting livestock.

2: Central Pastoral Zone

2a: Lowland Sub Zone



2b: Highland Sub Zone



Zone Description

The Central Pastoral Zone is a large but relatively sparsely populated zone, mainly inhabited by *Afar* pastoralists. Most of the settlements in the zone are to be found either along the coast or in the foothills and mountains of Tadjourah and Obock districts (the *Massifs de Mabla et Goda*). These mountains rise to above 1500m (5000 ft), and the higher rainfall, lower temperature and better pasture to be found in this Highland Sub Zone have in the past favoured the keeping of cattle, in contrast to the camels and goats kept in the hotter and drier Lowland Sub Zone.

Persistent drought has been a problem throughout the zone in recent years, but is especially significant in the highlands, raising doubts about the viability of cattle keeping in the years to come. Cattle pastoralists have responded to the problem in a number of ways. Some have abandoned the traditional patterns of transhumance and settled in local villages, while others have left the zone altogether, resettling with their herds in neighbouring Ethiopia or Eritrea (the Imino and Gininbad plateaux). Yet others combine these two strategies, with part of the family settled in Djibouti and part of the family (typically the men) away with the herds in Ethiopia or Eritrea. Due to a lack of pasture, most of the milking cattle remaining within Djibouti are now fed with maize bran (*boucha*) for at least part of the year.

Two other factors besides loss of livestock explain the increasingly settled existence of the population throughout the zone in the past 1-2 decades. The first is the desire to send children to school, and the second is the internal conflict of

¹Field work for the current profile was undertaken in April-May 2004. The information presented refers to 2003, a relatively 'normal' year by local standards (i.e. a year that was neither especially good nor especially bad in terms of food security, when judged in the context of recent years). Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2009).

the early 1990s.

As livestock numbers and livestock income have declined, the importance of other sources of income has increased. Most households in the zone now obtain the majority of their cash income from salaried employment (remittances and/or pensions). Pensioners are perhaps more common in the Highland than the Lowland Sub Zone, and they tend to keep cattle mainly for reasons of tradition and as a source of prestige. They provide a welcome source of fresh milk but are not the economic mainstay of the household.

The zone offers very few options for generating cash income locally. Livestock sales provide relatively little income because local demand is limited (with the main markets being Tadjourah and Obock towns) and there is poor access to the wider national market.

The sale of firewood is an important secondary source of income for villages along the main coast road. It is however less of an option for more remote communities in the mountains and foothills. Of the other potential income sources, a number apparently generate less income now than in the past. These include salt, honey and tourism. Income from salt has declined due to the mechanised exploitation of the Lac Assal salt deposits and an increase in commercial exports to Ethiopia, which has undermined the activities of smaller scale producers and traders in the zone. The availability of honey has apparently declined in a number of areas due to persistent drought. Tourist centres in the mountains and along the coast cater mainly to a weekend clientele from Djibouti city, and provide limited amounts of employment locally. Having declined during the 1990s as a result of the internal conflict, there are signs that the sector is growing once again.

Markets

For the settled population the main sources of staple food (rice, wheat flour, sugar and oil) are Tadjourah and Obock towns, supplied from Djibouti. Transport costs are high, especially to the more remote mountain communities. In addition, sorghum and wheat grain (food aid) are traded by camel from Eldar in Ethiopia, where sorghum can be bought for half the price paid in Tadjourah or Djibouti city. Traditionally the trip was a triangular one, from home to Lac Alool (to collect salt) and then to Eldar (to exchange salt for sorghum), a round trip of from 10 -12 days. Nowadays, however, the market for salt in Ethiopia is relatively saturated by commercial exports from Djibouti, and sorghum is being increasingly purchased directly for cash.

The market for livestock in the zone is relatively weak. The main local markets are Tadjourah and Obock towns, where the demand is for goats and for younger and smaller animals which fetch a relatively low price. Demand tends to increase during the *Hagaa* season when people from the zone but residing in Djibouti return home to villages in the cooler mountain areas. There is also some small scale informal export of goats to Yemen from coastal villages of Obock. There is virtually no local demand for cattle, and these are rarely sold.

The transhumant population has more opportunity to sell livestock than the settled population, especially when their movements bring them within reach of the national market. For example, cattle may move to the Hanle plain during the *Karma* season, and may be sold on from there to Djibouti.

The lack of demand for livestock in Tadjourah and Obock means that animals may be bought to town but may not find a market. This has encouraged the development of a system of credit, whereby the livestock keeper takes food (albeit at a higher price), on the basis that the debt will be paid once the animals are sold. This operates to the advantage of the livestock-keeper in the short term (since food is obtained when it is needed), but has the negative effect of increasing the cost of living in the longer term.

Proximity to the main coastal road linking Tadjourah with the rest of the country is a major factor determining access to firewood sales, an important secondary source of income in some areas.

Seasonal Calendar

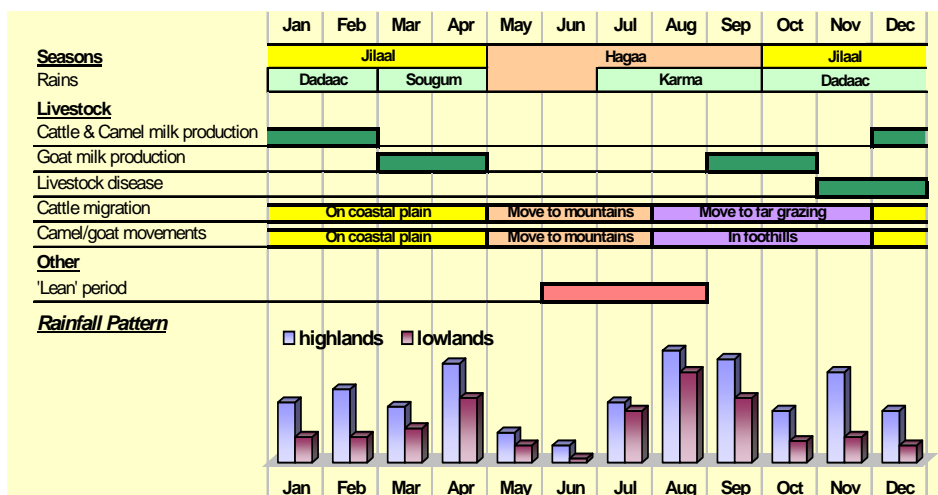
Annual rainfall averages 70-150 mm in the Lowland Sub Zone and 150-300 mm in the Highlands. The *Dadac* showers are especially important along the coast since they fall during the cooler months from October-February, giving rise to significant growth of pasture and browse. Although this is a good season for milk production, the cooler weather tends to be accompanied by an increase in livestock disease (e.g. pneumonia). The *Karma* rains are more significant inland than along the coast, where the higher temperatures in August and September result in rapid evaporation of any rainfall at this time of year.

There is a traditional and well established pattern of movements within and out of the zone, still practised by larger herders. Livestock are moved to the coastal plain for *Dadaac* and the first half of *Sougum*, and then into the mountains and foothills for the hotter *Hagaa* season. As water resources are depleted so livestock tend to concentrate around the main water points, such as the boreholes at Randa and Esoli and the shallow wells at Weima. From August onwards, the cattle (but not the camels and small stock) are moved inland to take advantage of the *Karma* rains in a number of areas; the Dorra plateau (Andaba, Dohda and Otoi), the forest of Madgoul, the Wabeita plateau and the Weima plain. Some of the animals from the Massif de Goda move south, to the Gagade plateau, to Dareel and to the Hanle plain.

The most difficult months (the 'lean' season), when milk production is at its lowest, comes at the end of *Hagaa*/beginning of *Karma* (i.e. June to August).

There is relatively little seasonal movement to the towns in search of employment; the pattern these days is mainly one of permanent or semi-permanent settlement in the urban areas (especially Djibouti), not one of seasonal migration.

¹Karan in Somali, Karma in Afar.

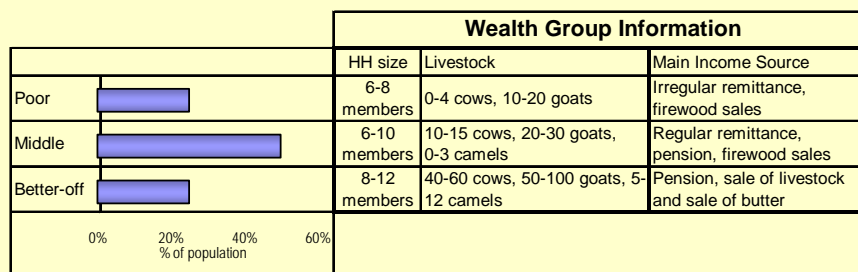


Source of rainfall data: USGS satellite imagery, estimated long-term average.

Highland Sub-Zone

Wealth Breakdown

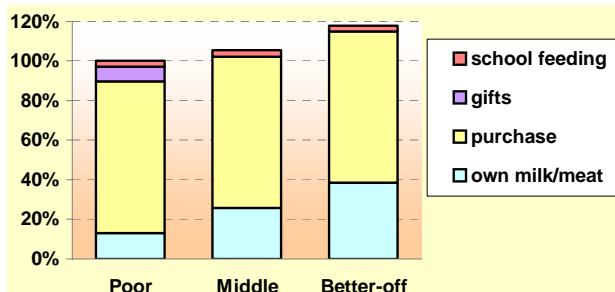
Access to pension/remittance income is the major determinant of wealth in the sub zone. Livestock ownership is a secondary factor, mainly affecting access to milk for consumption rather than cash income.



Sources of Food (2003)

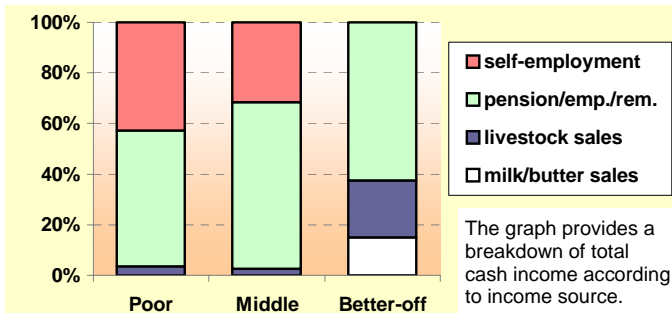
Purchase is the most important source of food for all wealth groups, followed by milk consumption (in the case of the poor, milk consumption comes both from own livestock and from a milking animal on loan from the middle or better-off). Other minor sources of food are own meat production and, for the poor, gifts. Households from all wealth groups tend to have at least one child attending primary school and therefore benefiting from school feeding.

Access to remittance income means that all three wealth groups can cover at least 100% of their minimum food needs in most years. In more remote areas, food may be sent directly, instead of cash.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash (2003)



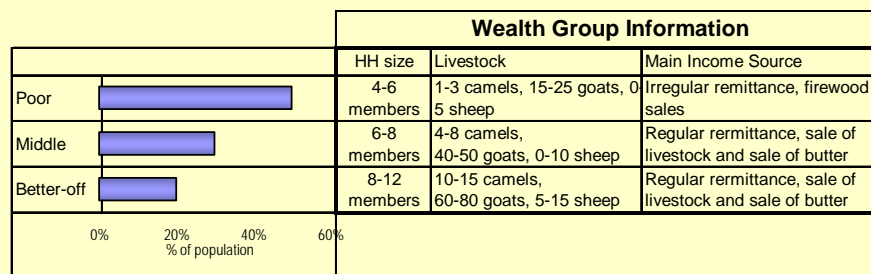
The graph provides a breakdown of total cash income according to income source.

Remittances are an important source of income for all three wealth groups. Pensions tend to be more common among the 'middle' and 'better-off'. Secondary sources of income are firewood sales by the 'poor' and 'middle' (self-employment on the graph) and sale of livestock and livestock products by the better-off. Opportunities for selling firewood are greatest in settlements close to the roads, and the dependence on remittances is greater in the more remote interior villages.

Lowland Sub-Zone

Wealth Breakdown

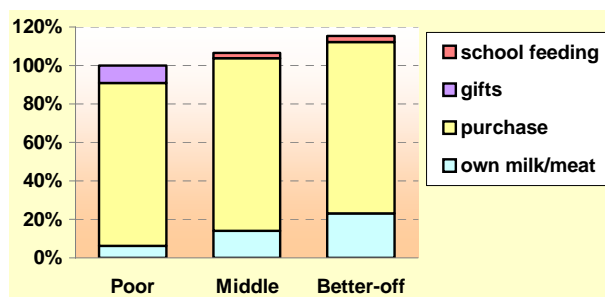
As in the highlands, access to remittance income is the main determinant of wealth in the sub zone, with livestock ownership a secondary factor. Pension income seems to be less common in the lowlands than the highlands.



Sources of Food (2003)

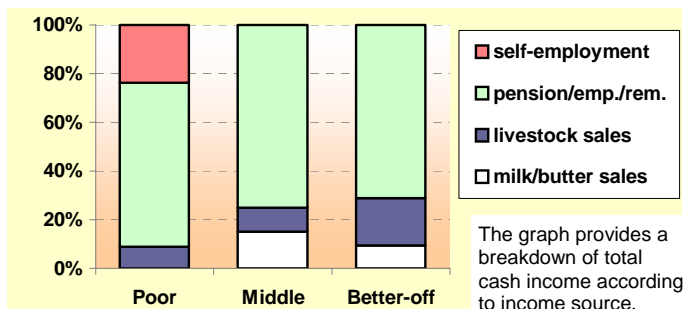
Patterns of access to food are very similar in the Highland and Lowland Sub Zones. Access to milk tends to be lower across the board in the Lowlands, given the lack of cattle. It also seems to be less common for 'poor' households in the Lowland Sub Zone to have a child at primary school, so that school feeding is not a source of food for this wealth group. This is a reflection of the greater isolation of lowland compared to highland communities.

As in the highlands, access to remittance income means that all three wealth groups are able to cover at least 100% of their minimum food needs in most years. In more remote areas, food may be sent directly, instead of cash.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcs per person per day.

Sources of Cash (2003)



Patterns of cash income are very similar in the lowlands and highlands, except that the 'middle' in the Lowland Sub Zone depend more upon sale of livestock and less on 'self-employment' than the 'middle' in the Highland Sub Zone. However, this difference is more apparent than real, reflecting a difference in the wealth breakdown results from the two sub zones (i.e. households selling firewood were more likely to be considered 'poor' in the lowland than the highland sub zone).

Central Pastoral Zone (both sub zones)

Hazards

The main hazards affecting the zone are :

Severe drought, livestock disease and predators. These are all hazards that affect livestock, reducing either the volume of milk available for consumption or the number of animals available for sale. The main livestock diseases are pneumonia for goats and brucellosis for cattle. The main predators are hyenas, jackals and baboons.

Late payment of salaries and pensions/reductions in casual employment in Djibouti city. Anything that affects the level of remittances or pension income will have a profound impact on food and livelihood security, given the very high dependence on these sources of income in the zone.

An increase in staple food prices. Most food is purchased and the 'poor' and 'middle' in particular are vulnerable to any increase in staple food prices. This applies to commodities imported through Djibouti port (rice, wheat flour, sugar etc.) and those coming from neighbouring Ethiopia (mainly sorghum and food aid wheat grain). Crop failure in Ethiopia is likely to affect sorghum prices, while changes in the amounts of food aid distributed will affect the price of wheat grain.

Response Strategies

People in the zone will pursue a range of strategies in an effort to cope with the effects of a hazard. The first two strategies are intended to safeguard and protect livestock in the event of a drought. The remaining strategies are pursued in order to maintain access to food and income.

Livestock migration. Camels and small stock are taken to the main deep boreholes, including Illisola, Assassan, Gerille, Sagalou and Esolo. Cattle, on the other hand, are usually taken across the border to Imino (Ethiopia) and to Gininbad (Eritrea). Unusual patterns of livestock migration bring with them the risk of conflict for limited natural resources, but this is generally avoided through traditional arrangements and pacts for sharing these.

Increased purchase of fodder and the cutting down of trees to provide browse. Milking cows generally consume purchased fodder for a number of months each year, and purchases of fodder tend to increase in a drought year. Cutting down trees so that small stock can browse on the leaves is a traditional drought strategy.

Increased remittances. Social solidarity and kinship support are especially strong in the zone, and an increase in remittances is the single most important strategy for dealing with problems that affect access to income or to food. Food may be sent directly or money may be remitted for the purchase of staple food, or for the purchase of fodder for animals.

Increased credit. It is common even in 'good' years for pastoralists to purchase food on credit, and this is an important strategy at times of increased stress.

Switching of expenditure to cheaper staple foods. Two types of response are possible. People may reduce non-food expenditure in order to increase food purchases. They may also switch from purchasing expensive rice and wheat flour to cheaper sorghum and wheat grain sourced from Ethiopia.

A number of other strategies are likely to be less effective than those listed above. In general this is because the strategy involves an attempt to increase the sale of a product for which the demand is limited. This applies to the **increased sale of livestock**, **increased sale of firewood**, **increased sale of salt**, and **migration in search of casual labor**. Returns from the **sale and/or slaughter of livestock** will also tend to be low because of the relatively small numbers of animals owned, especially by 'poor' and 'middle' households.

Indicators of Imminent Crisis

The graphic presents the likely sequence of indicators in the event of a severe drought, beginning with a failure of the main season *Karma* rains and ending approximately 12 months later. The main seasonal indicators are those relating to the movements of livestock, the availability of pasture, browse and water, and livestock mortality.

Other possible indicators of imminent crisis, for which the timing is less precise include:

- An increase in staple food prices.
- Late payment of salaries/pensions and a reduction in remittances
- Migration in search of employment and/or food assistance.

Rains			
Hagaa	Karma	Jul	
		Aug	
Jilaal	Dadaac	Sep	Failure of main <i>Karma</i> rains and migration of cattle towards Imino in Ethiopia and Gininbad in Eritrea
		Oct	Small stock remain close to boreholes.
		Nov	Depletion of pasture and browse around these water points.
		Dec	Poor <i>Dadaac</i> . Increased purchase of fodder for cattle
	Sougum	Jan	Cattle that have migrated remain in Imino and Gininbad
		Feb	
		Mar	Poor <i>Sougum</i> . Pasture and browse around permanent water points exhausted. Increase in livestock mortality.
Hagaa	Karma	Apr	
		May	
		Jun	
		Jul	Acute shortages of water (June/early July) and food (June-August), even if next <i>Karma</i> season relatively good.
		Aug	

Djibouti Livelihood Profile

Southeast Pastoral Zone

May 2004¹

Main Conclusions and Implications

The Southeast Pastoral Zone has relatively good road and rail access to Djibouti's main urban centres and people in this zone depend primarily on the sale of rural produce to these urban markets. For communities living along the main road and rail corridors (the Roadside Sub Zone), the main product sold is fresh milk. For more remote communities throughout the zone, especially those along the southern border with Somalia and Ethiopia (the Border Sub Zone), the sale of fresh milk is not an option and most income is instead earned from wood and charcoal selling.

Incomes tend to be higher in the Roadside than the Border Sub Zone. This is because there is a strong demand for milk and milk products, especially in Djibouti city, much of which is currently met by importing milk powder. This indicates there is considerable scope to develop both the production and marketing of milk and milk products in the zone. A program of rural road construction would, for example, improve access to the market for more remote communities, enabling households that currently depend upon wood and charcoal to diversify into milk production and sale. Another possibility would be to create pastoral cooperatives that could organise the collection, processing, transport and sale of milk. Such cooperatives could also organise the purchase of animal fodder and veterinary drugs.

Income generation by poorer households throughout the zone is limited by low levels of livestock ownership. In the case of the Roadside Sub Zone, the critical factor is the number of milking camels owned. For the Border Sub Zone, it is the number of pack animals since these are required to transport wood and charcoal to market. Veterinary interventions to prevent and control disease and improve breeding would help to increase both herd size and herd productivity.

The sale of firewood and charcoal is a key source of income for poorer households in the Border Sub Zone. There are understandable concerns about the environmental sustainability of this activity, and the government introduced controls on wood cutting in a number of areas in January 2004. If rigorously imposed, these would have a major impact on local livelihoods. There is an urgent need to assess the environmental impact of wood cutting and charcoal burning and to introduce sustainable management practices that protect both the environment and rural incomes.

The main hazards threatening the zone (apart from restrictions on wood cutting and charcoal burning) are drought, an increase in staple food prices and a reduction in remittance income (more important in the Roadside Sub Zone).

3: Southeast Pastoral Zone

3a: Roadside Sub Zone



3b: Border Sub Zone



Zone Description

The Southeast Pastoral Zone includes the whole of Ali Sabieh district, the eastern half of Arta and southern Dikhil. The main road and railway links between Djibouti and Ethiopia run through the zone and provide the population with access to the urban markets of Djibouti city and the main district towns. The main rural products sold are camel and goat milk from the Roadside Sub Zone, and firewood and charcoal from the Border Sub Zone.

Topographically, the zone consists of hills separated by valleys with mainly dry river beds. The main water sources are shallow wells up to 10 metres deep and surface streams (mainly located in Dikhil district). The vegetation reflects the hot dry climate and is mainly bushy scrub dominated by acacia trees and a semi-palatable grass locally known as '*aws damer*'. This is a popular pasture for goats, camels and donkeys and a good safety net grazing plant in severe drought conditions. Livestock browsing alternates between 'sweet' bushes on the hills and 'salty' bushes in the valleys (the

¹Field work for the current profile was undertaken in April-May 2004. The information presented refers to 2003, a relatively 'normal' year by local standards (i.e. a year that was neither especially good nor especially bad in terms of food security, when judged in the context of recent years). Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2009).

latter important for tick control purposes). Most wood collection is concentrated in more remote hilly areas and sometimes along the main road corridor between Djibouti and Ethiopia.

Persistent drought and livestock disease have led to a progressive reduction in livestock herd sizes throughout the zone. This has increased the dependence of the population on urban sources of income, resulting in an increasingly sedentary mode of existence. An additional factor encouraging settlement has been a desire for better access to schools and health services. Access to these services is better in the Roadside than the Border Sub Zone (because roads and services tend to go together).

Livestock movements tend to be localised within the zone. In a severe drought, however, households with large numbers of animals will migrate to neighbouring countries, especially Ethiopia. In this case the milking animals are left behind with the women, the children and the elderly, and the 'dry' animals are taken to far grazing by the men and older children. There is no hiring of labor to help with this activity.

Larger numbers of milking camels are kept in the Roadside than the Border Sub Zone, with even the 'poor' in the Roadside Sub Zone owning camels, which is not the case elsewhere. Camel breeding is controlled in the Roadside Sub Zone to ensure that each household has at least one milking camel every year and throughout the year. Milking camels are normally given fodder to supplement local browse, and this is increased in drought conditions.

There is little diversification of incomes within the zone. Djibouti city provides the main source of employment throughout the year. The only source of local employment is casual labor in small shops and cafes, and at sand collection points along the road (the sand being sold to construction companies). One member of the household may occasionally be engaged in petty trade or small business in a trading center along the main road.

Markets

District markets in Dikhil, Arta, and Ali Sabieh provide food and non-food commodities to the urban population and to satellite markets in the surrounding villages. Rice, sugar, wheat flour and edible oils come from Djibouti and are transported by road to the district markets. Local prices are sometimes lower than those in Djibouti. This is because bulk supplies may be imported directly by traders from these three districts. Other products such as sorghum, beans, wheat grain, fruits, vegetables, ghee and live animals come overland from Ethiopia, while Somalia provides small stock, camel ghee, clothes and sorghum.

The demand for locally reared livestock is weak and the local sale price for livestock is generally determined by the supply of animals from Ethiopia and Somalia. Local animals tend to be sold directly to consumers in either the district towns or Djibouti city, especially during religious festivals as higher prices can be obtained at these times.

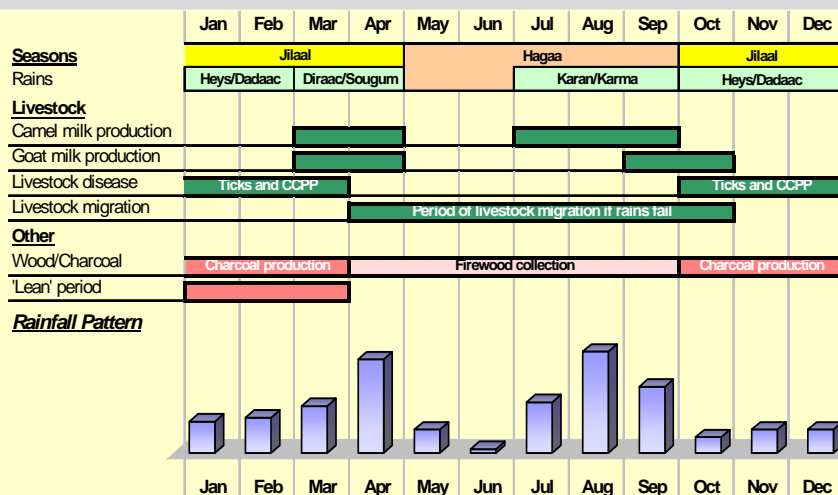
Camel and goat milk are sold to towns along the main roads at numerous points, manned, usually by a female member of the household, throughout the day. There is no processing or refrigeration of the milk before sale. Camel milk and to a lesser extent, goat milk, are very marketable, and with the constant stream of roadside traffic there is a steady supply of potential customers.

Firewood and charcoal are generally sold at district markets or are transported by lorry to Djibouti. Donkeys and camels provide the main means of transport to district markets. Charcoal is produced during the cooler *Jilaal* or winter season and is sold to better-off urban households. The price of charcoal increases during *Hagaa* or winter, when it is in short supply. Firewood is sold throughout the year and prices tend to be relatively constant. It is used by poorer households and by hotels and restaurants.

Seasonal Calendar

The zone has a hot dry climate. Rainfall is very variable, but averages 150-200 mm per year.

The heavier *Karan/Karma*¹ rains (July-September) are mainly responsible for recharging the water table and replenishing shallow wells. The *Heys/Dadaac* showers (October-February) are lighter but are good for pasture growth as they fall during the cool season and allow some soil moisture



CCPP – Contagious Caprine Pleuro-Pneumonia – affects goats especially in the colder *Jilaal* season.
Source of rainfall data: USGS satellite imagery, estimated long-term average.

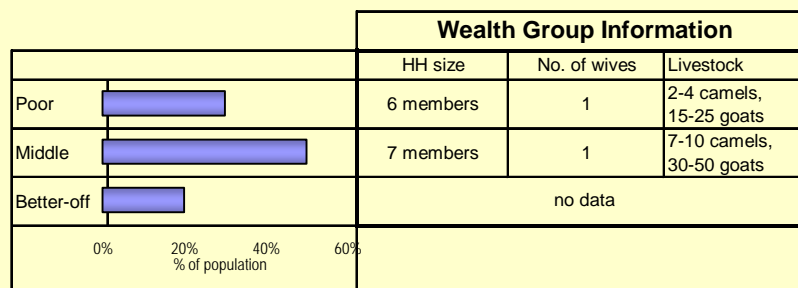
infiltration. The *Diraa/Sougum* rains (March-April) are intermediate in terms of volume and have a double function of replenishing the water table and stimulating pasture growth. *Karan/Karma* tends to be more important away from the coast, i.e. in the west of the zone, while the *Heys/Dadaac* rains are largely a coastal phenomenon.

¹*Karan* in Somali, *Karma* in Afar.

Roadside Sub-Zone

Wealth Breakdown

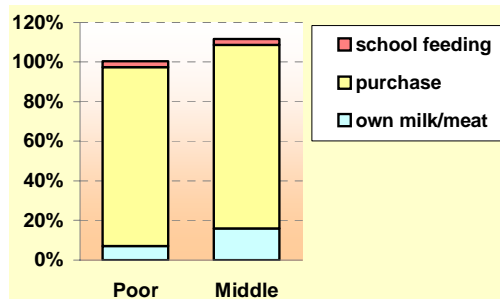
Livestock holdings are the main determinant of wealth in the Roadside Sub Zone. The crucial difference is the number of milking camels, since these provide most of the income from milk sales. The 'poor' tend to have one animal in milk throughout the year; the 'middle' may have between two and four.



Sources of Food (2003)

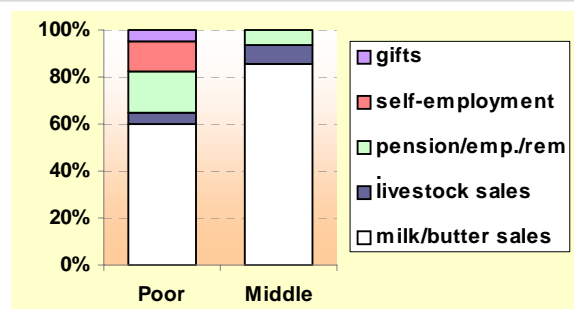
Livestock holdings are low, especially for the 'poor' and 'middle' wealth groups, and only a small percentage of household food needs are met from own livestock production (milk, butter and meat). Both wealth groups sell the majority of their camel milk and a proportion of their goat milk as well.

Both 'poor' and 'middle' households purchase over 90% of their daily food needs in the form of wheat flour, rice, pasta, sugar and edible oil, with the 'middle' purchasing more of the expensive items such as pasta. Primary school feeding contributes significantly to the food intake of children attending school, but contributes less than 5% to overall household food needs because only about one child per household is of primary school age and the schools are open for only 8 months of the year.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kJals per person per day.

Sources of Cash (2003)



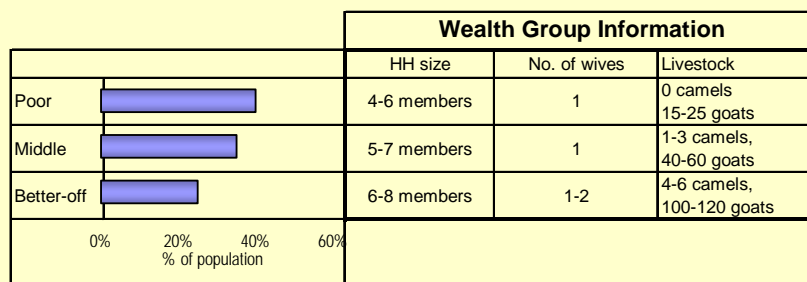
Cash income is obtained mainly through the sale of camel and goat milk along the main roads and the railway. The 'middle' earn approximately three times more from milk sales than the 'poor', in line with their larger livestock holdings. Secondary sources of income for both groups include remittances and/or pensions and sale of livestock. The 'poor' also seek additional income from casual labor, and the sale of charcoal and firewood.

The graph provides a breakdown of total cash income according to income source.

Border Sub-Zone

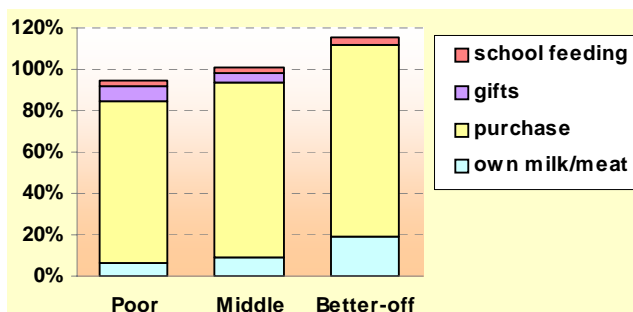
Wealth Breakdown

A key difference between 'poor' and 'middle' households is in the ownership of pack animals. 'Poor' households generally own one donkey whereas the 'middle' own 1-2 transport camels. 'Poor' households therefore often have to borrow pack animals from the 'better-off'. Even though this is usually without payment, it nonetheless limits their ability to generate income from the sale of firewood and charcoal.



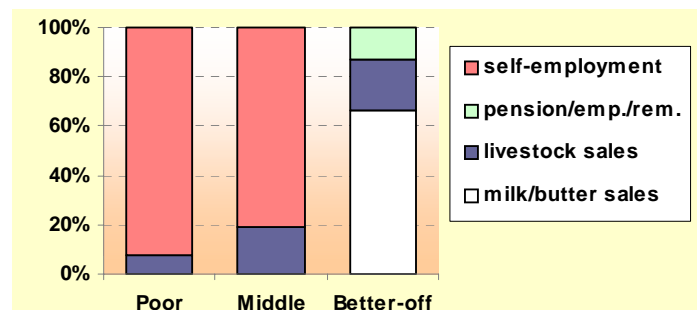
Sources of Food (2003)

The 'poor' and 'middle' obtain a low percentage of household food needs from the consumption of their own livestock products such as milk, butter and meat. This is due to the low numbers of livestock owned. Among the 'better-off', livestock products constitute a larger proportion of total food intake. All three wealth groups rely heavily on purchase, which provides over 80% of household food needs. Due to the very low cash incomes in this sub zone, the 'poor' are unable to fully cover their food needs in most years. Unlike the poor, both the 'middle' and 'better-off' wealth groups meet over 100% of their food needs.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash (2003)



The graph provides a breakdown of total cash income according to income source.

and are able to rely upon the sale of animals and animal products, supplemented by remittances.

'Poor' and 'middle' households derive their income from two main sources, the sale of firewood and charcoal, and the sale of livestock. The majority of poor and middle households claim not to have kinship support from Djibouti city, although this is common in a number of other livelihood zones in the country. This is due to a lack of access to education coupled with the relative isolation of the sub zone.

'Better-off' households tend not to sell firewood and charcoal. They have considerably more livestock than the less well-off groups,

Southeast Pastoral Zone (both sub zones)

Hazards

The main hazards are:

Severe drought, livestock disease and predators (hyenas and jackals). These three hazards affect livestock in particular (reducing the number of births, reducing milk production and increasing mortality, depending upon the hazard). Any hazard that reduces milk production will be particularly significant in the Roadside Sub Zone, given its dependence on the sale of milk for cash income.

Restrictions on the cutting of firewood and the burning of charcoal. The sale of firewood and charcoal provides the majority of income for the 'poor' and 'middle' in the Border Sub Zone. The enforcement of recent legislation banning charcoal production and firewood collection in certain areas would have a major effect on the incomes of 'poor' and 'middle' households in this sub zone.

A reduction in remittances. Remittance income is more important in the Roadside than the Border Sub Zone.

Remittances are mainly sent by relatives working in the towns, and anything that affects urban employment is likely to affect remittance income. Relevant hazards include changes in levels of government or private sector employment, salaries or pensions, and in the availability of casual labor in the port and construction sectors.

An increase in staple food prices. Given the importance of purchase as a source of food, it is obvious that any increase in prices will have a significant effect on food access in the zone. This may occur due to a) an increase in international prices (for rice, wheat flour and vegetable oil), b) crop failure in neighbouring countries (mainly affecting sorghum) and c) any change in the taxes and charges associated with the importation of food.

Response Strategies

A number of strategies may be pursued by households in an effort to cope with a hazard. The options, the importance of which will vary according to the hazard, are:

Livestock migration. ‘Wet’ and ‘dry’ herds may be separated in a severe drought and the ‘dry’ animals moved to neighbouring countries. This is mainly a strategy for ‘better-off’ households with more animals.

Increased purchase of fodder for milking camels. Inhabitants of the Roadside Sub Zone purchase fodder in most years to supplement locally available browse. In a bad year, the purchase of fodder is increased.

Increase in the proportion of milk sold versus consumed. Milk is a high value product, and one possible response is for pastoralists to sell a higher proportion of their milk production at times of stress, using the money to purchase cheaper calories in the form of grain.

Increased sale of livestock. The viability of this response is questionable as demand for local livestock is weak and prices tend to decrease at times of stress, especially if the body condition of the animal deteriorates. Given that livestock holdings are low, especially for the ‘poor’ and ‘middle’, there is also the risk that an important productive asset will be depleted if this strategy is used.

Increased number of animals slaughtered. The number of animals slaughtered and consumed increases at times of stress. However, given the small herd sizes, this is not a particularly effective strategy for increasing human calorie intake. Animals tend to be slaughtered as a last resort, e.g. if they cannot be sold and a shortage of water and/or pasture means they are unlikely to survive.

Switch to cheaper staple foods. Households could switch to purchasing sorghum in Ethiopia and Somaliland, where it sells for approximately 1/3 the price of the main staple food grains in Djibouti. This will only be possible if sorghum is available at accessible border markets and the means of transportation can be found.

Increased wood and charcoal sales. The effectiveness of this strategy is questionable as increases in the supply of firewood and charcoal would tend to decrease its value unless new markets can be found. There is also a concern that excessive use of this strategy could have a negative effect on the environment.

Kinship support. This may take one of several forms. People may appeal to urban relatives for food or cash assistance. There are also a number of traditional support mechanisms such as: *Irmansi/Maal* and *Zakat*. *Irmansi/Maal* is the loaning of a milking goat for the duration of the period of stress. Any offspring born during this period remain with the borrower while the adult female is returned. Although not very significant in terms of immediate food needs, this can be an effective re-stocking strategy. *Zakat* (charity) is an annual religious offering of goods (mainly goats) commonly given by better-off to poorer households.

Migration to urban areas in search of employment. There is only limited scope for rural migrants to find work in the already saturated urban labor market. This therefore tends to be a relatively late response to crisis.

Increased Borrowing. The ‘poor’ are often in debt in ‘normal’ years, and their access to additional credit may be limited by traders who may themselves be under stress and in need of additional funds.

Indicators of Imminent Crisis

Different indicators will be relevant for different types of hazard. The graphic presents the likely sequence of indicators in the event of a severe drought, beginning with a failure of the main season *Karan/Karma* rains and ending with the next year's *Diraac/Sougum*.

Relatively early indicators include an increase in the price of

milk and declines in prices for livestock (especially goats), wood and charcoal. Livestock prices will decline as the physical condition of animals deteriorates and owners seek to liquidate assets. Wood and charcoal prices will decline as the number of sellers increases and existing sellers attempt to maximise income from this source.

A failure of the *Heys/Dadaac* is, even in a year of 'normal' *Karan/Karma* rains, a sign of a long difficult *Jilaal* season to come. When a poor *Heys/Dadaac* follows a poor *Karan/Karma* this is a strong indicator of a very bad *Jilaal* season. This is because of the importance of *Heys/Dadaac* in terms of stimulating the growth of pasture.

Other possible indicators, for which the timing is less precise include:

- An increase in staple food prices.
- Increased seeking of gifts from relatives
- Migration in search of employment and/or food assistance.

Season	Rains	Month	Indicator
Hagaa	Karan/ Karma	Jul	
		Aug	Failure of main <i>Karan/Karma</i> rains
		Sep	Shortage of water and pasture, ↑milk prices
Jilaal	Heys/ Dadaac	Oct	↑livestock sale and ↓prices, ↑charcoal/wood sale and ↓prices
		Nov	
		Dec	Failure of <i>Heys/Dadaac</i> rains leading to inc. livestock migration
		Jan	Increased livestock disease and death (Jan onwards)
	Diraac/ Sougum	Feb	
		Mar	
Hagaa		Apr	
		May	
		Jun	

Djibouti Livelihood Profile

Market Gardening Zone

May 2004¹

Main Conclusions and Implications

Irrigated production of fruit and vegetables takes place mainly in the south of the country and in Tadjourah district (mainly around the town of Randa). These are areas with relatively good road or rail access to Djibouti's main urban centres, where fruit and vegetables are in high demand.

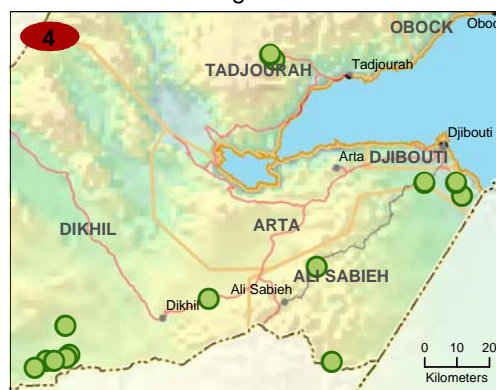
Market gardening was first introduced in the early 1980's, with assistance from both government and international agencies. It is an activity that is now in decline for a number of reasons, including:

- Lack of water in frequent years of drought
- Poor maintenance of pumps and other infrastructure
- Very high production costs (fuel, labor and transport)
- Poor roads and high rates of crop loss en route to market
- Competition from low-priced Ethiopian imports

A range of interventions is possible to improve and develop the sector (e.g. improved agricultural extension services, integrated crop pest management, better management of water resources, introduction of solar pumps, better arrangements for transporting produce to market). The most successful are likely to be those that increase the financial incentives for producers. This is because current rates of return are very low, with production costs accounting for 50%-60% of crop sales income. At the same time the risk of crop failure (with loss of time and money invested) is relatively high. The most effective measures will be those that a) reduce the costs of production (such as a reduction in the tax on fuel, making local production more competitive compared to low-priced imports) and/or b) increase the return to farmers (e.g. by reducing rates of crop loss en route to market).

The main natural hazards in the zone are drought, flash floods caused by heavy rain, and crop pests and diseases. Drought lowers the water table making it more difficult to maintain adequate irrigation. Flash floods can cause extensive damage to crops as well as infrastructure such as wells, pumps and irrigation channels. Market gardeners are also vulnerable to a range of economic hazards, including increased input prices, increased staple food prices and irregular or delayed payment of pensions and/or salaries (since both pensions and remittances are important sources of income for the zone).

4: Market Gardening Zone



Zone Description

The Market Gardening 'Zone' is not a single zone as such, but rather a scattering of locations across the country. Most market gardens are located in the southern districts of Ali Sabieh and Dikhil, and in eastern Arta (to the South East of Djibouti city). These are generally within reach of the Djibouti-Addis Ababa railway and/or the main trans-national highway, which provide access to the urban markets of Djibouti city and the main district towns. There are also gardens in Tadjourah district, for example in and around the town of Randa.

Djibouti's hot dry climate means that all production has to be irrigated. Most gardens are located along the banks of dry seasonal rivers (*wadis*), and water is obtained, by pump or by bucket, from shallow wells dug 8-12 metres into the river bed. Water is transported from well to garden along specially constructed irrigation channels or by plastic hosepipe.

Both vegetables and fruits are grown (tomato, pepper, onion, sweet melon, water melon, mango, guava, citrus and date). Fodder may also be grown for animals. Temperature is as important a factor as water availability, and most vegetable production takes place during the cool season from October to April, with only heat-tolerant crops such as melon and peppers being grown during the hot summer months,

Because returns are both low and uncertain, the most successful market gardeners tend to be those with a secondary source of income to invest in production and provide a buffer against years of low yield or low profitability. Frequently, the secondary source of income is a pension. Market gardeners tend therefore to be of two types. They are either

¹Field work for the current profile was undertaken in April-May 2004. The information presented refers to 2002, a relatively 'normal' year by local standards (i.e. a year that was neither especially good nor especially bad in terms of production and food security, when judged in the context of recent years). Provided there are no fundamental and rapid shifts in the economy, the information in this profile is expected to remain valid for approximately five years (i.e. until 2009).

pensioners seeking an investment or failed or failing pastoralists seeking to diversify their sources of income and reduce their dependence on livestock. The pensioners tend to have higher incomes from market gardening than the pastoralists. They are also more likely to live in the town than the countryside. Both groups keep small stock as well as tending their gardens. Goats are more popular than sheep as they are better adapted to the climate and the fodder available. Camel ownership tends to be low.

Markets

Vegetables are mainly sold to Djibouti city, while fruits are sold both in the city and locally within the district. Most market gardeners are organised in cooperatives, which organise the transport of produce to market. Transport costs are very high, accounting for between 10%-30% of the final sales price in the market. This is due to the distances travelled and the poor roads connecting the interior with the main transport arteries. Wastage also tends to be high as produce is often poorly packed. The return on fruit tends to be higher than that on vegetables. This is because fruit fetches a higher price per kg, and a greater proportion can be sold locally (in which case the cost of transport is lower).

The demand for locally reared livestock is weak and livestock prices are generally determined by the level of supply from neighbouring Ethiopia and Somaliland. Local livestock tend to be sold in the district markets or directly to consumers in Djibouti city. Religious festivals constitute the peak period for sales, as higher prices can be obtained.

The main staple foods (sugar, oil, sorghum, wheat flour and rice) and a wide range of non-food commodities are either purchased in the main district markets or directly from Djibouti city. These markets also supply smaller satellite markets in the rural areas.

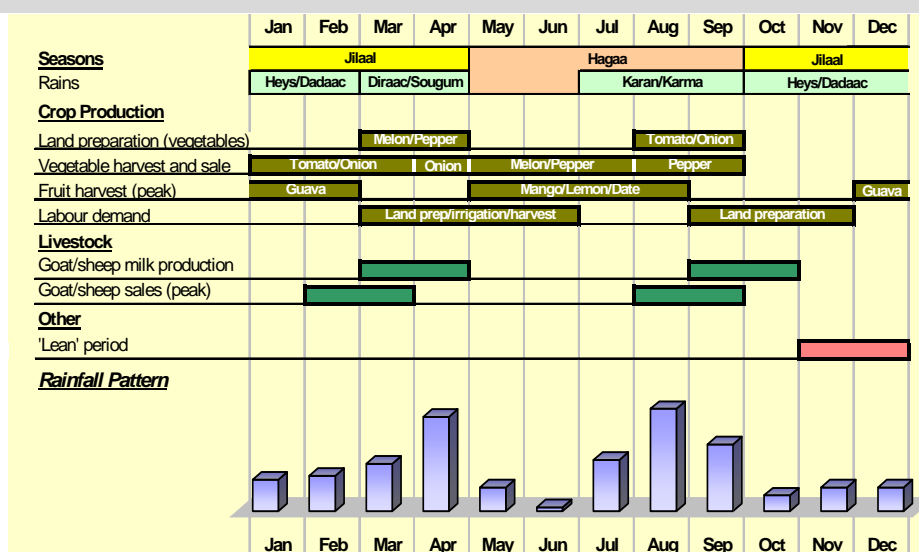
Seasonal Calendar

The zone receives rainfall three times a year. The main *Karan/Karma*¹ rains tend to be heavier in the interior than along the coast, while *Heys/Dadaac* is largely a coastal phenomenon. The heavier *Karan/Karma* rains are especially important in terms of recharging the water table and replenishing the shallow wells with water. *Heys/Dadaac* is a period of light showers that are important for the regeneration of pasture during the cooler winter months. The *Diraac/Sougum* rains are intermediate in volume and have a dual role of replenishing the water table and stimulating pasture growth.

Most vegetables are cultivated during the cooler *Jilaal* or winter season from October to April. Sweet melons, water melons and peppers are grown during the hot *Hagaa* or summer months from May to September. Prices vary seasonally, with higher prices obtained at the beginning and end of the harvest, when the availability of produce is relatively low. Incomes from market gardening tend to be lowest from October to December, between the end of the summer harvest and the start of winter harvesting in January. These constitute the 'lean' months for market gardeners.

Most staple food prices do not change regularly from one season to another. Exceptions are sorghum and beans, which are imported from Ethiopia and Somaliland. Prices for these items tend to rise pre-harvest, i.e. between July and September for sorghum, and September to December for beans.

¹*Karan* in Somali, *Karma* in Afar.






Source of rainfall data: USGS satellite imagery, estimated long-term average.

Wealth Breakdown

Availability of capital to invest in production is the key determinant of wealth in the Market Gardening Zone. Better-off households with more capital on average own more pumps, make more use of hired labor and tend to focus more on fruit production than other less well off groups. The advantage of fruit is that it sells for a higher price. The disadvantage is that fruit trees obviously grow more slowly than vegetables, and the producer has therefore to be able to wait before realising a return on his/her investment. This is something that the 'poor' in general cannot afford to do. Perhaps surprisingly, the better-off do not necessarily cultivate a larger area than the less well off. The difference is in

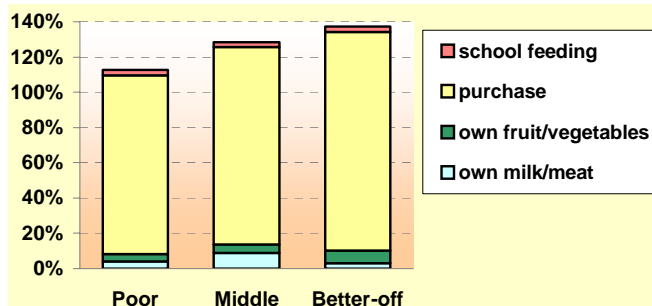
the yield and the value of the crops grown. Nor do they own more livestock than the 'poor' and the 'middle'. This is largely a reflection of the fact that the better-off market gardeners tend to be pensioners living in the towns.

		Wealth Group Information			
		HH size	Area cultivated and how	Crops	Livestock
Poor		6-8 members	2000-4000m ² 0-1 pump, own labor	Mainly vegetables, some fruit	25-35 goats/sheep
Middle		7-9 members	3000-8000m ² , 1 pump, own/hired labor	Equal prod ⁿ fruit and vegetables	40-50 goats/sheep
Better-off		9-11 members	2000-4000m ² 1-2 pumps, hired labor	More fruit than vegetables	30-40 goats/sheep
		0% 20% 40% 60% % of population			

Sources of Food (2002)

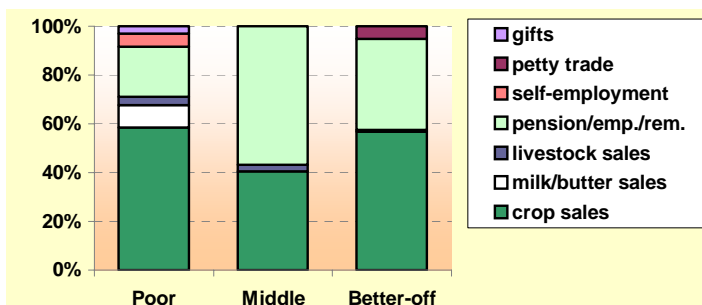
Only a small percentage of total food energy needs are met from own crop and livestock production. This is because fruit and vegetables tend to be low in calories, and the bulk of production is destined for the market. Own milk and meat production are likewise relatively insignificant due to the relatively small number of animals owned.

As in other livelihood zones in Djibouti, the bulk of food is purchased. Purchasing power in the Market Gardening Zone is relatively high by the standards of rural Djibouti, and all three wealth groups are able to access more than 100% of their minimum food needs. The 'middle' and 'better off' wealth groups purchase a more varied diet than the 'poor' that includes items such as meat and milk powder.



In the graph, food access is expressed as a percentage of minimum food requirements, taken as an average food energy intake of 2100 kcals per person per day.

Sources of Cash (2002)



The graph provides a breakdown of total cash income according to income source.

invest in agricultural activities (water pumps, irrigation tubing, labor etc.).

The poor generate roughly 60% of their income from the sale of crops. They cultivate mainly tomatoes and peppers, which generate less income than the fruit and vegetables grown by the 'middle' and 'better-off'. Secondary sources of income for the 'poor' include remittances from relatives in the towns, casual labor, livestock sales and sale of firewood and charcoal (self-employment in the graphic). The 'middle' and 'better-off' tend to have fewer sources of income, but generally have a reliable secondary income such as remittance or a pension. They therefore have more money to

Hazards

Inhabitants of the zone are exposed to a range of hazards, some of which are chronic (i.e. they are a problem every year), and some of which are periodic.

The main natural periodic hazards are drought and flood. Drought causes the water table to drop, making it more difficult to access the water required for irrigation. It also tends to reduce the productivity of livestock.

Most gardens are located along the margins of dry river beds or *wadis*. These tend to act as a funnel for wind, which results in damage to crops in most years. *Wadis* are also subject to flash flooding, and community representatives estimate that this is a serious problem roughly one year in five. Flash floods can not only damage crops, they can also destroy wells, pumps and even entire gardens.

Periodic Hazards	Chronic hazards
Drought (one year in two)	Competition from cheap imports
Flood (one year in five)	Crop pests and diseases
Increase in input prices	Wind and sand inundation
Irregular payment of pensions/salaries	Livestock disease and predators
Increase in staple food prices	Malaria

A number of the periodic and chronic hazards are economic in nature. These include changes in input prices, of which fuel (for pumps and vehicles) is the most important. The low price of fruit and vegetables imported from Ethiopia is a chronic economic hazard. This tends to have less effect on the 'middle' and 'better-off' that produce crops such as guava, mango and dates that are imported in smaller quantities or not at all.

Two other periodic economic hazards are worthy of note. These are any delay in the payment of pensions and salaries, and any increase in the cost of staple foods. These will have significant effects on all three wealth groups.

Response Strategies

Local responses to hazard can be divided into two categories, a) strategies that reduce the impact of the hazard, maintaining production despite the hazard and b) strategies that maintain access to food and to income, replacing food and income lost as a result of the hazard.

Strategies that reduce the impact of the hazard: The most appropriate responses will vary according to the type of hazard. Responses to drought include digging new or deepening existing shallow wells, increased use of diesel pumps and the contracting of additional manual labor to draw water and care for crops. Crop diseases require the purchase of pesticides while livestock disease requires the purchase of veterinary medicines. Longer term measures can also be implemented, such as construction of wind breaks to mitigate wind damage, and the construction of flood barriers to reduce the impact of flooding. Almost all of these responses require additional investment, and as such are more difficult for the 'poor' to implement.

Strategies that maintain access to food and to income:

Seek employment. Despite the relative saturation of the urban labor market, this was reported to be one of the main responses to hazard for poorer households in the market gardening zone.

Kinship support. Many market gardening households receive remittances from urban relatives, and requesting additional assistance is an important strategy for all wealth groups in the zone.

Livestock sale. One of the main reasons for keeping livestock is that they are an asset that can be liquidated in the event of a problem of food access. In Djibouti, however, demand for local livestock is low and prices tend to decrease at times of stress, so that the amount of money realised from the sale of additional livestock may be limited.

Income generating activities such as the sale of fodder, charcoal and firewood. These relatively minor sources of income for the 'poor' in 'normal' years can be expanded to some extent in a 'bad' year. However, there is clearly a limit to the amount of income that can be generated since demand is relatively fixed and the market easily saturated.

Switching of expenditure away from non-food items towards staple foods. This is potentially quite an important strategy in the market gardening zone, since incomes are higher than in a number of other zones and there is therefore scope to switch expenditure between non-food and food items.

Livestock migration. Livestock movements tend to be localised in most years. In a 'bad' year, however, livestock may be moved quite considerable distances in search of water and browse.

Indicators of Imminent Crisis

The main indicators for the market gardening zone are those related to rainfall, since this affects the availability of water for irrigation and pasture, browse and water availability for livestock.

The graphic presents the likely sequence of indicators in the event of a severe drought, beginning with a failure of the main season

Season		Month	Indicator
Rains			
Hagaa	Karan/ Karma	Jul	
		Aug	Failure of main <i>Karan/Karma</i> rains
		Sep	Shortage of water and pasture, early sale of livestock
Jilaal	Heys/ Dadaac	Oct	↑ livestock sale and ↓ prices, ↑ charcoal/wood sale and ↓ prices
		Nov	
		Dec	Failure of <i>Heys/Dadaac</i> rains
		Jan	
		Feb	Increased livestock disease and death
Hagaa	Diraac/ Sougum	Mar	↑ livestock sale and ↓ prices
		Apr	Failure of <i>Diraac/Sougum</i> rains
		May	
Hagaa		Jun	Increase in livestock migration to distant locations

Karan/Karma rains. These are the most important rains in terms of re-charging the water table. They also fall at the beginning of the main winter production season. If a failure of these rains is followed by a failure of the *Heys/Dadaac* season, then the result is an exceptionally long dry *Jilaal* season and the onset of severe drought conditions.